

ERIC MENDELSON

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Eric Mendelsohn, 1936

ERIC MENDELSON

by ARNOLD WHITTICK

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PREFACE

It is some years ago now that I first had the idea of writing a book on Eric Mendelsohn and his work. I realized that to do so it would be helpful to obtain the co-operation of Mendelsohn himself. When I first approached him he was mildly, but not enthusiastically, interested. I think he considered that it was presuming too much to co-operate in a work about himself when his career was only, perhaps, half completed. But to me that was hardly a valid objection, as it was irrelevant to my purpose, which was to demonstrate the significance of Mendelsohn's type of work in the progressive movement of the new architecture. Still, he let the matter drop. It was only late in 1937, after two years, that I obtained the necessary co-operation to proceed.

The reason that I conceived the idea of writing this book at all was because Mendelsohn seemed to me to be, more than any other, the representative architect of the age—the era of industrialization, of the machine, of steel and concrete; because in his work one finds the most convincing expression of the fundamental characteristics of modern life. I use the wider term life rather than architecture because the principal feeling that actuates his work has an application to all departments of life. In his architecture it is an aesthetic principle, but in a wider application is an important philosophy. It has been one of my aims to show how this feeling of Mendelsohn the artist touches and evaluates all things, and gives a remarkable unity and consistency of purpose to his life.

With the medium provided by steel, concrete, and glass he has shown himself to be a great creative artist. His expression of the medium and of the purpose of his buildings constitutes some of the first true achievements of a new architectural style which, I believe, will ultimately mark an epoch and will rank in retrospect with the great styles of the past.

ARNOLD WHITTICK

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A. W.

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I. INTRODUCTION

EUROPEAN ARCHITECTURE

Three Centuries in brief Retrospect from

To appreciate the full significance of Eric Mendelsohn's contribution to architecture and to appraise it justly, it is necessary to understand the main forces that have led up to his achievements. It is important, therefore, briefly to sketch in the historical background, beginning with the Renaissance architecture in Italy that had fully developed and carrying the narrative to the convenient date of 1914, when Mendelsohn was a man of twenty-seven.

The eager scholars and artists of the fifteenth century in Italy dreamed of re-establishing in their own time the glories of Roman civilization. Architects were constantly searching amongst the ruins of ancient Rome for further knowledge of architectural forms and ornament; and the Renaissance architecture from Brunelleschi to Michelangelo showed that what was original and unknown in Rome, such as the particular treatment of the dome rising on a drum,¹ yet Roman style and ornament became more and more apparent, until in the middle of the sixteenth century almost the full repertoire of Roman style and decoration was at the disposal of Renaissance architects.

One discovery resulting from the researches of fifteenth-century scholars was to affect the whole course of subsequent architectural development. About the middle of the fifteenth century the manuscript of Vitruvius, the Roman architect of the Augustan age, came to light. Contained in these manuscripts were exhaustive rules for the proportions of classical architecture, and the formulae of what are ge-

¹ The Renaissance dome and drum owe something, of course, to the influence of Gothic architecture. It is significant that the first important dome of Renaissance architecture, namely that of Florence cathedral by Brunelleschi, was built on an Italian Gothic church, and that Gothic ribbed construction was employed.

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known as the orders. There is no doubt that Vitruvius derived his system of proportions from many Greek sources, and that in doing so he was manifesting one important aspect of the Greek idea of beauty. There is considerable evidence to show that the Greeks believed that beauty should conform to standards. The statue by Polyclitus, called the Canon, was supposed to incorporate the correct proportions of the human figure, and this had a profound influence on subsequent sculptors. The proportions of most figures in Greek sculpture obey similar rules. In discussing beauty Plato endeavours to reduce it to definite geometric principles.

With their eagerness to revive the glories of Roman architecture, it can be understood how Renaissance architects devoured the precepts of Vitruvius. Palladio, Vignola, and Serlio all wrote extensive treatises based on Vitruvius and endeavoured to standardize architecture according to his precepts.

These Renaissance architects exerted by their writings a tremendous influence on European architecture, an influence which even to-day is by no means exhausted. It spread first to France, where the writings of Vignola and Serlio were followed by a group of architects, and then to England, where Palladio was accepted as the great authority on classic rules in architecture.

An artist's preaching and practice, as Sir Joshua Reynolds so well demonstrated, are not always the same. Palladio, Vignola, and Serlio advocating an almost blind acceptance of rules, resulting in standardization, permitted themselves much more freedom in practice. It would have been impossible to reproduce Roman buildings exactly because types of building had changed, but in adapting Roman architecture to Renaissance churches and palaces the results could have been much closer than, say, in Palladio's buildings in Vicenza. But here is a case where the artist's originality and feeling triumphed over the convictions of the scholar. Much closer imitations of Greek and Roman buildings were made in the later stages of the Renaissance.

Here, then, is architecture by rule, an architecture of set decoration, of geometry and symmetry, of mathematical order set on its path. When it came to England, chiefly through the agency of Inigo Jones, late Gothic and Tudor faded to insignificance before it. Its first appearance here was certainly impressive, for Inigo Jones was an artist with an unerring sense of proportion; and no matter what the style, provided relations of masses are good, giving a convincing sense of unity, the work is bound to be successful. The lead of Inigo Jones was followed by the majority of important architects in England of the seventeenth and eighteenth centuries,

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by Vanbrugh, Hawksmoor, Gibbs, Chambers, and Robert Adam. Later there was a movement throughout Europe towards closer adherence to classical buildings, especially those of Greece. But more of that later.

At the time when the precepts of Vitruvius were being disseminated by the writings of Palladio, Vignola, and Serlio a reaction to this rigid formalism set in, led by Borromini and Bernini. Fortified by the magnificent freedom and daring of Michelangelo they rebelled against subservience to rules, contending that it destroyed originality and individual expression. Their work was an exemplification of their contentions, work that has come to be known as baroque. This movement, beginning in Rome, likewise spread throughout Europe, and existed very often side by side with the more restrained classical work. Many architects, like our Christopher Wren, constantly move between classicism and baroque. Greenwich Hospital, with the theme set by Inigo Jones's Queen's House, is essentially classical; but St. Paul's Cathedral, and many of Wren's towers and spires, have much of baroque freedom and originality.

The close adherence to Roman forms and ornament on the one hand and a departure to baroque freedom on the other are symptomatic of the classical and romantic spirits which seem to persist in various forms in most cultures. This classical¹ spirit seeks for universal principles and laws, and the establishment of ideal fixed forms as guides and aims in artistic creations, with a strong preference for precision and definition; whereas the romantic spirit moves towards freedom of individual expression and the emphasis of individual character, with a strong preference for things remote and mysterious.

Classical and romantic are often further explained by the broad oppositions of objective and subjective, and impersonal and personal. The objective and impersonal are more concerned with generalities, types, ideals, and standards, and expression that will satisfy an approximation to an imagined standard of humanity. The subjective and personal are more concerned with the expression of purely individual emotion and with personal adventure and experience, so that a subject is often transformed and given a particular character by the personal feeling of the artist. Renaissance architecture based on the precepts of Vitruvius and his

¹ It is obvious that when I speak of classical in this connection I do not mean the actual classical art of Greece, which was produced just as romantically as the most modern romantic art, but the tradition and authority of classical art; and when I speak of the classical spirit, artist, or architect I mean the spirit that follows the classical tradition, and bows to its authority, an authority which I admit is very powerful because of its high excellence. It is really the habit of mind that follows authority and standards.

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disciples belongs to the former, while baroque architecture, especially in its later developments, where it manifests as rococo and merges in the Gothic revival, belongs to the latter. And the two tendencies may be found in modern architecture. The classical, or impersonal, obviously emerges in the apostles of standardization, conceiving architecture as a communal art capable of being produced by teams; whereas the romantic and personal emerges rather in those exponents of modern architecture who are essentially creative artists and who believe in the value of personal expression. I would suggest that within the modern movement a typical architect of the former character is Walter Gropius, and a typical architect of the latter character is Eric Mendelsohn. But these are broad distinctions which, though helping us to appreciate the character of important work, must not be carried too far, because many great artists—Michelangelo, Leonardo, and Goethe to name three outstanding examples—combine the qualities of romanticism and classicism just as distinctively personal expression is sometimes apparent in Gropius' work, and Mendelsohn's work sometimes has a classical impersonal character, although these are the exceptions rather than the rule.

It is significant that Renaissance architecture was late in spreading to Germany. Reaching France first as ornament in Gothic building, Renaissance architecture was fairly established there by the end of the sixteenth century. The same happened in England a little later, Renaissance architecture being established by the beginning of the seventeenth century. But in Germany, though Renaissance ornament appears in Gothic buildings, the more purely classical style can hardly be said to have appeared until the end of the eighteenth century, when the so-called classical revival spread throughout Europe. The greater part of modern Germany was never a part of the Roman Empire, and it may be because of more strongly rooted traditions of another character that classical architecture was so long in obtaining a footing there.

The revival of classical architecture reached its culmination at the beginning of the nineteenth century, and, as in every culmination, it was the beginning of the decline. It culminated with greatest magnificence in Paris, where the city was designed with a formality and symmetry derived from classic principles, and many buildings, like the Madeleine, and the buildings surrounding the Place de la Concorde, and many of the triumphal arches were fairly close copies of Greek or Roman originals.

Parts of London, Liverpool, Berlin, and Leningrad were built on classical principles, either at the end of the eighteenth or beginning of the nineteenth century. In Liverpool St. George's Hall and the Museum

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and other buildings surrounding it are faithfully classical; in London the buildings in the vicinity of Waterloo Place come very near to Greek calligraphy, and if conceived as adjoining the eastern end of Unter den Linden, with its classical museum buildings and palaces, both would seem to be the product of the same designer, or at least the same firm. The Berlin buildings are perhaps a little better, in fact the theatre and museum by Schinkel, with Elmes's St. George's Hall, are the best buildings of the Greek revival.

As in literature and painting, a reaction from classicism was imminent. Even some of the protagonists of the style were a little tired and Schinkel, the most celebrated of them, sighed for something else. Feeling that to reproduce the architecture of ancient Greece and Rome was not to express your own life in building, a life so different, especially the growing industrial life of England which he had known from a visit, he asks why we should not try to find a style for ourselves as other great ages had. In 1820 Schinkel designed a large department store for Unter den Linden, which, though based on classic proportions, makes a great step forward.¹ There is almost a total elimination of classical ornament. It is a stone frame construction, the spaces between the stone piers being filled with glass. No further advance in the design of a store building was made until Messel's Wertheim building in 1896.

The romantic revival began in Germany with Herder, Goethe, and Schiller, and in England with Horace Walpole, Mrs. Radcliffe, Scott, and later Wordsworth, Coleridge, and others. In painting it was more strongly represented in France, in the work of Géricault and Delacroix, and blossomed later in the greatest landscape painting in history in the work of Corot and Rousseau and Turner and Constable.

In architecture I am inclined to think that the rococo style, originating at Versailles in the early eighteenth century, was an early symptom of the romantic revival which mingled later with the Gothic revival. In England the Gothic revival began with Horace Walpole's curious additions to his villa on Strawberry Hill between 1753 and 1778. But it was not until the early nineteenth century that any extensive work was done in the Gothic style. Unlike the classicists, the Gothic revivalists had no Vitruvius to formulate the principles of proportion or standard ornament.² They were

¹ It is illustrated in *Modern Architecture* by Bruno Taut (*The Studio*, London, 1929), p. 35.

² Viollet-le-Duc might now be called the Vitruvius of the Gothic style, but his influence came too late to affect the Gothic revival to any extent. His great work: *Dictionnaire de l'architecture française du XI^e au XVI^e siècle* was published from 1854 to 1868, when the revival was already waning.

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comparatively ignorant of the style they sought to revive. Even later, when Sir Gilbert Scott was doing so much work, the spirit of Gothic architecture, the rhythm and the energetic aspiration of a medieval cathedral, seemed beyond recapture. The Albert Memorial (1861-4), supposed to be derived from a thirteenth-century reliquary, is a curious and painful mixture of Gothic, Byzantine, classical, and baroque elements.

It was, however, within the spirit of the Gothic revival that a valuable contribution towards improvement and originality in design was made. As Renaissance artists and scholars of the fifteenth century wanted to revive the glorious civilization of Rome, so did William Morris want to turn his back on the horrible industrial age he was living in and revive the spirit of medieval art and craft, and consequent happiness. It was not so much an aesthetic as an ethical urge with Morris. He saw that the machine made of man a drudge, and he wanted to revive the pleasure in work that could only be obtained when a man made a thing himself from beginning to end and took a pride in it. With his own firm, and with the furnishing of Red House (1859-64), he tried to revive medieval methods of production. Meanwhile machinery was stamping out richly ornamented objects for the ostentation of a people whose finer senses were deadened by a soul-destroying industrialism.

The aesthetic result of Morris's effort was the demonstration that the beauty of an object did not depend on ornament, but on shape, and on fitness for the purpose it was to serve. The influence spread, and it is well known that it is one of the tributary streams of modern functionalism. Its influence was apparent in domestic architecture in England, which, beginning with Morris's own house designed by Philip Webb in 1859, was apparent in later houses designed by Voysey, and which were to lead on to the work of Baillie Scott, Edwin Lutyens, and others. One thing is noticeable about these houses—there is not merely a simplification of façades, but classical symmetry is, where necessary, ignored, and the building has grown from a plan best suited to the purpose of the building. It must be differentiated, therefore, from the simplification of buildings in the classical style that has been a common practice for the past thirty years. This has merely meant stripping the building of classic ornament, while the symmetry, main shape, relation of window and wall spaces remain precisely the same as in its ornate predecessor. London is crowded with such buildings.

The main objection to a modern building with classical elevations should be stated. The buildings required to-day are not the same as the buildings of ancient Greece and Rome. Social life and customs have

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changed and with them buildings. It often happens that if a building is to fulfil its purpose well the most suitable plan, the requirements of light, and the particular disposition of interior fittings and furniture will not permit of symmetrical classical elevations with equal masses on either side of a central entrance and with regularly spaced, vertically shaped windows. But if the classical appearance is the first thought, as it too frequently is, then often the design which most efficiently serves the purpose of the building is sacrificed for mere external show. Against this there is the contention that a building the decorative effect of which comes from the emphasis of its purpose and structure is more expressive of our own life and civilization than a building dressed in the architecture of remote people, who, however cultured, lived totally different lives from our own.

Unsuspected at the time, it was chiefly in the engineering of the nineteenth century that the great promise of modern architecture existed, precisely because engineers were the first to use iron for constructions of any size. In fact, it may be said that iron brought the engineer into existence for civil purposes. It was in England and France that the initial work was done, in England chiefly in bridges, and in France in roofs where iron was used quite early in combination with glass. England was in the forefront of large-scale iron construction because iron was available here before it was to any extent elsewhere, and England was consequently greatly in advance of other countries in industrialization.

The first iron bridge was built in 1777-9 at Coalbrookdale in Shropshire by J. Wilkinson. This bridge still remains, and it is noteworthy that its curved arch support makes a graceful outline. In 1789 an iron bridge was erected by Payne at Rotherham, in 1796 Telford built an iron bridge to cross the Severn at Buildwas, and in 1801 this celebrated engineer made his famous design for replacing London Bridge with a single span iron bridge. This represented not only a daring and ambitious engineering project at the time, but a design of considerable beauty and magnificence.¹

The first iron bridge across the Thames was Vauxhall Bridge, designed by James Walker in 1816. This was followed three years later by Rennie's design for Southwark Bridge. Both of these bridges were replaced over a hundred years later. From 1820 onward iron bridges became common, the railways greatly stimulating their development.

As early as 1786 a roof with an iron framework was used by Louis Victor for the Théâtre Français. In 1811 the Halles au Blé was sur-

¹ A reproduction is given in *The Architectural Review* for August 1936 as an illustration to an article on 'The Early Iron Bridges of the British Isles' by C. B. Andrews. A number of other illustrations of early iron bridges are given with the article.

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mounted with a cupola of iron, copper, and glass; between 1823 and 1833 the iron and glass cupola of the Chamber of Deputies was built; and the semi-circular iron and glass roof of the arcade of the Palais Royal, Paris, appeared between 1829 and 1831.

It should be mentioned that it is quite possible that factories began to be built with iron frames during the early nineteenth century. Telford mentions a flax-spinning factory at Shrewsbury built as early as 1801 with an iron frame, and there is no doubt that further research would reveal others almost as early, especially in the industrial areas of England.

A building important in this development was the reading-room of the Bibliothèque Sainte-Geneviève, Paris, built in 1843. Although the walls are stone, two semicircular iron and glass vaults are supported in the centre by iron columns, which are left exposed;¹ a fact worthy of note at so early a date. But even more important for the history of iron and glass architecture is Rouhault's glass and iron conservatory in the Jardin des Plantes, built in 1833. About this time Paxton built greenhouses with wood ribs. He had contemplated using iron, but found it more expensive than wood. In 1834 Paxton visited Paris and saw Rouhault's conservatory. A few years later he built the great conservatory at Chatsworth of iron ribs, and there is no doubt that this was inspired by Rouhault's work. Paxton's work at Chatsworth was an excellent preparation for the large building that he designed for the Great Exhibition of 1851, and which was re-erected to a somewhat changed design at Sydenham in 1853. In the original building the long naves had flat roofs, with a semicircular arched roof for the centre transept. In the second building at Sydenham the centre roof throughout was semicircular.

The importance which has attached to the Crystal Palace as an early monument of the new architecture is due, not to the fact that it was the first building of its kind, but because it was the first building of its structure on such a huge scale, and was the first building to demonstrate the potentialities of iron and glass construction in a rather dramatic way. And in addition many people, especially young enthusiastic students of the new architecture, remember it as a building of some beauty, if the towers are ignored, which, alas, are all that remain.

The prospects opened up by the building of the Crystal Palace were immense. Here was a building covering an area twice that of St. Paul's Cathedral, erected in less than a year. It was strong and gave a maximum

¹ Illustrations of most of these early iron and glass roofs accompany P. Morton Shand's excellent 'Historical Survey of Steel and Concrete' in *The Architectural Review* for November, 1932.

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of light, and standardized parts of a size not hitherto used were employed. Nothing more eloquent on the constructional and architectural potentialities of the Crystal Palace has been uttered than Wyatt's paper on the subject, read to the Institute of Civil Engineers. Wyatt was one of the engineers connected with the erection of the Crystal Palace, and he remarks that it 'may be expected to produce, hereafter, important changes alike in the construction and appearance of many extensive buildings throughout the country. It must be felt that England possesses mechanical appliances and physical energies far exceeding those which gave form and being to the most celebrated monuments of antiquity. The walls of St. Paul's are 14 feet thick, those of Hyde Park building only 8 inches. St. Paul's required thirty-five years to erect, this building will be finished in about half that number of weeks'.

The railway engineers were among the first to profit by the lesson of the French iron and glass vaults and of the Crystal Palace, in building the large city termini. In 1852 Lewis Cubitt built King's Cross Station, which consisted of two magnificently proportioned glass roofs, the first wood ribbing being substituted by iron later. The roofs are of semicircular shape, supported on outer walls, and in the centre by an arcade of round arches. The front of the station admirably expresses the interior structure, and this, though one of the earliest of London's stations, is undoubtedly the finest. Paddington Station, with three iron and glass vaults, was built by the celebrated Brunel in 1854; the Gare du Nord, of equal magnificence, was built in 1862; St. Pancras, with its flat Gothic shape and impressively wide span, was built in 1868, about the same time as the two Gothic-shaped iron and glass vaults of Frankfurt Station.

It is impossible in a brief summary to mention all the important iron and glass buildings and roofs that were constructed during this period. Railway stations, market halls, and exhibition halls were erected of iron and glass—the iron gradually used more and more as steel after 1856—in increasing numbers throughout Europe, principally in France, England, and Germany. The most famous building after the Crystal Palace was the Galerie des Machines, by Cottancin, built for the Paris Exhibition of 1889. The grand swing of the steel arches, curving from the vertical to the straight thrust of a slightly pointed vault had the tremendous span of 385 feet. And in this same exhibition, towering above everything, was another monument of the new architecture, the Eiffel Tower. Abused for many years, it is now regarded not only as a remarkable achievement in engineering, but an object of some beauty with its graceful lines swinging in concave curves from the ground upwards to the soaring network of steel.

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So far iron and glass has been used principally for exhibition buildings, and for the roofs of market halls and railway stations. It is inevitable that in buildings of a more permanent and ceremonial character, like municipal and other public buildings, a comparatively new structural material will not be employed until it has been tried in buildings of a more temporary nature. Thus we have few buildings of this kind before 1890 where iron is the structural material, and glass is used at all expansively. When, however, the steel frame is used for buildings like blocks of offices and flats it is encased in stone or brick, a practice generally required by regulations concerning fire resistance, and more often than not the character of the structure is disguised by a dressing derived from a past style, generally Greek or Roman.

The use of the steel frame in this manner owes its most active early development to America. It was first so used in 1886 by Holabird of Chicago in the Tacoma building, and after this its use spread widely and rapidly. By the end of the century many large stores were built with the steel frame, but rarely was this expressed in the façade; usually a Greek, Roman, Renaissance, or Gothic screen was placed in front. As before mentioned, Messel's Wertheim store in Berlin, built in 1896, was the first where the character of the structure is expressed in the façade. Expression of the actual structure of the building is regarded by many of the adherents of modern architecture as imperative in good architectural design. This naturally arises from enthusiastic interest in structure, although from the purely aesthetic standpoint this position is not easy to maintain.

Reinforced concrete construction is much later in coming on the scene than the steel-frame construction. It was first used as a frame of pre-cast beams, thus in constructional method like the steel frame. The ferro-concrete so widely employed to-day was originally invented by the French gardener Monier in 1867 to strengthen concrete tubs for trees.

But it was not until 1884 that experiments were first made with ferro-concrete beams, and the first building to be partly constructed in this manner was the church of St. Jean l'Évangéliste, Montmartre, which was designed and built in 1894 by Anatole de Baudot. But more important early works in this method of construction in which the reinforced concrete frame is used expressively are the works of Auguste Perret and his brother, such as the house in Rue Franklin, built in 1903, where the frame construction largely determines the character of the façade; the Garage, Rue Ponthieu, built in 1905, and the Théâtre des Champs-Élysées, built in 1911, which is very extensively faced with marble in the manner of many later concrete buildings in Italy. The famous churches at

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Le Raincy and Montmagny by Perret, also built on the reinforced concrete frame principle, belong to the period after the war. Tony Garnier was also responsible for many designs in reinforced concrete during this early period, but these too often remained only designs. Reinforced concrete, however, was not used as a distinctive structural material, where the whole is constructed *in situ*, the concrete being poured into a mould, until Freyssinet designed his impressive airship hangars at Orly in 1916, and a little later the Market Hall at Rheims. Mendelsohn had already in 1914 made several sketch designs in which concrete is used in this way, but these I will deal with in the next chapter.

Up to about 1890 the slow departure by many architects, some of whom have been mentioned, from traditional styles, stimulated by a reaction to the age of revivals, meant the wholesome yet negative movement towards simplification, involving the elimination of ornament. There was yet a natural desire for something more positive, 'to find a style for ourselves', as Schinkel had felt, and this ultimately resulted in *l'Art nouveau*, which in its many forms covered the whole field of plastic and pictorial arts from architecture to book illustration. That it did not affect essential architectural forms, but only surface ornament and furnishings, was probably due to lack of opportunity. The aim was to originate a style that was not dependent on the past, and *l'Art nouveau* resulted firstly in designs of abstract rhythmical lines. The purest architectural example is the house in the Rue de Turin, Brussels, designed by Victor Horta in 1893, and the most noteworthy Continental exponent was Henry Van de Velde, who, influenced by William Morris, gave expression to this linear design chiefly in furniture and furnishings. It is probable that *l'Art nouveau* was a late product of Pre-Raphaelitism, for there is no doubt that the linear rhythms of Rossetti, and more especially Burne-Jones inspired by Botticelli, had a great influence on the following generation. Another factor, which is not generally considered in accounts of the movement, is the great influence from about 1885 of music and musical rhythms on pictorial art, an influence clearly seen in the work of Burne-Jones, Aubrey Beardsley, and others. The now famous C. R. Mackintosh was influenced by the movement, the decorations of the Cranston tea-room at Buchanan Street, Glasgow (1897),¹ being an example. On the Continent he was for long thought to be the main force in the movement, an impression created by

¹ This was the first of the four Cranston tea-rooms that Mackintosh decorated in collaboration with his friend George Walton. The decorations of the other three are not so markedly influenced by *l'Art nouveau*, although traces of the influence appear in occasional linear rhythms.

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Hermann Muthesius, who returned to Germany from England in 1903 with a great enthusiasm for English architecture. It is generally stated that the movement petered out about 1906, because it did not inevitably emerge from any structural form, and because of the crudities and extravagance of the host of mediocre followers. But it may be suggested that it has many echoes in modern art in some of the work of Picasso, Braque, and the Unit I Group in England; where linear rhythms employed in the designs do not represent recognizable physical objects but are plastic translations of feeling and emotion, as music translates into sound.

One aim of *l'Art nouveau* was to symbolize ideas by abstract forms, which is precisely what many artists are trying to do to-day. And again, it made a stand for personal expression, against standardization, and demonstrated the possibility of symbolic linear expression in architecture. This is what has often been admired in Mendelsohn's sketches.¹ In designing his furniture Van de Velde was able to associate his lines with the structure of the object, and that is precisely what the designer of the motor-car does to-day.

Mackintosh has sometimes been called the founder of the modern movement in England, mainly because of his design for the Glasgow Art School, which was built between 1898 and 1909, but the claim is altogether too extravagant considering that the building is conceived in terms of stone and not in terms of steel or concrete. The building is one of the best that appears at the turn of the century, with its massive façade of rectangular forms, large studio windows, and complete elimination of traditional ornament, but it does not go any further than Schinkel's design for a store made as long ago as 1820. Traditional stone construction is well expressed in the library building—the later portion built between 1907 and 1909. It is rather to architects like Otto Wagner, Alfred Messel, Henry Van de Velde, Peter Behrens, Adolf Loos, Hans Poelzig, Walter Gropius in Germany and Austria, and to Auguste Perret and Tony Garnier in France, and, if we go beyond Europe, to Louis H. Sullivan and Frank Lloyd Wright in America, that we must look for those who first not only exploited the possibilities of steel-frame construction and large glazed surfaces, but who broke with traditional dressings and façades and thought out the purpose of each building afresh, designed it accordingly, and endeavoured to express in the appearance of the building its structure and purpose.

It is clear that the acceptance of the machine with its logical design

¹ When Van de Velde first saw some of Mendelsohn's sketches he exclaimed: 'I have found a pupil at last'.

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and construction as inevitable in civilization, was a considerable influence in determining the course of the new architecture. With the machine—the motor-car, locomotive, and aeroplane—it is imperative to think how it will best serve its purpose, then to construct it as well as possible to serve that purpose, finally to make it pleasing to the eye by forms that emphasize in an attractive way its construction and purpose. And this became the gospel of the new architecture, although it should be added that the all-important emphasis of character which really constitutes the aesthetic interest and thus the architectural essential is too often ignored, with the result that many buildings, although efficient constructions, do not succeed in being works of art.

Of some of the pioneers mentioned I should perhaps give a few significant facts. The influence of Peter Behrens has been considerable. His most important work began when he became architect to the General Electric Company of Berlin, and the two most important buildings that he designed before 1914 are, I think, the turbine factory in Huttenstrasse, Berlin, built in 1909, and the factory built in Voltastrasse in the same city in 1911. The former is monumental in its grand simplicity. Large areas of glass are employed, the steel frame is apparent in the façades, and the stone facing helps to give it its massive character. In the Voltastrasse factory, emphasis is placed on vertical piers with windows and subdued horizontal bands between. The long verticals, of course, serve as facings to the steel uprights.

Josef Hoffman, beginning as an eclectic, and using ornament with taste, succumbed to the influence of Otto Wagner, who, late in life, stripped his buildings of ornament, the Vienna Post Office Savings Bank of 1905 being the best example. A little earlier (1903-4) Hoffman designed his most famous building, the Convalescent Home in Purkersdorf, which, with its plain walls and flat roofs, and windows widening a little and becoming almost square, looks very modern even to-day. But Hoffman, later on, returned to his first love, and the joys of ornament claimed him.

Adolf Loos, on the other hand, is a stern and uncompromising antagonist of all forms of ornament, and the purity of his façades is certainly refreshing. He achieves beauty by excellence of proportion, and the only difference that can be noted in the design of his early and late houses (a house on the Lake of Geneva built in 1910, and a house in Prague built in 1930) is that the relation of the windows to wall space is more nicely calculated. There is no very strong emphasis or movement in his work. Horizontals and verticals, as in the work of Behrens, are always balanced with a view to repose.

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Hans Poelzig, though not having quite the same classic sense of form as Behrens and Loos, is, I think, more daring and original than either. The design for a water-mill, Breslau,¹ obviously conceived in reinforced concrete, shows windows of various sizes with semicircular heads patterning two massive blocks, each having a projecting glass and steel framed structure on the side connecting with the other block by means of a glass covered bridge. And the shops and offices at Breslau built in 1912, show bands running unbroken the whole length of the building, a motif that was to be used later so effectively by Mendelsohn as the consequence of construction chosen in order to bring as much light as possible into the building; however, it is worth noting that Mendelsohn was totally unaware of this building by Poelzig until long after he had designed many buildings with horizontal emphasis of a similar character. Here is a parallelism of creative activity that is bound occasionally to happen to travellers on the same road.

In the year 1912 the Fagus Shoelace Factory was built by Walter Gropius and Adolf Meyer. Here the walls of one of the blocks are large expanses of glass, broken only by the bands of brick facing the steel frame. And in 1914 Gropius, in a model factory at the Werkbund Exhibition at Cologne, first used another feature that was to become so important in future architecture, namely the semicircular glass projection enclosing the staircase. Here it was used symmetrically at either end of the frontage, but it was for asymmetrical effects that it became so distinctive as used by Mendelsohn.

Brief as this summary is, I think I have stated enough to show that much of the pioneer work in designing a building logically to fit its purpose in terms of materials like steel, concrete, and glass, had been accomplished by 1914, and that many of the most distinctive forms arising out of this construction had been tentatively foreshadowed by that date. Eric Mendelsohn can hardly be regarded as one of the pioneers of the new architecture, but rather as the one who, for the first time, has combined the various developments and experiments made by his forerunners in deciphering the constructive potentialities of the new building materials; in expressing their architectural potentialities without compromise: that is, without any dependence on traditional forms or relation to the formalities of *l'Art nouveau*. That is the reason why, in his sketches and buildings, he has evolved a basis for the new style that has, in the best examples, become classical in its completeness and perfection.

¹ Illustrated in *Modern Architecture* by Bruno Taut (*The Studio*, London, 1929), p. 61.

Bibliographical Note

Of the many books that I have read on the history of architectural development for the half-century or century before 1914, Nikolaus Pevsner's *Pioneers of the Modern Movement* (London, 1936) and Walter Curt Behrendt's *Modern Building* (London edition, 1938) seem to me the best. The former gives more facts, but the latter makes clear, I think, the essential spirit of each movement. For the development of steel and concrete construction nothing better has been written than P. Morton Shand's erudite historical survey in *The Architectural Review* for November 1932. This survey is illustrated by many of the important early structures in iron, steel, and concrete. P. Morton Shand's article on the Crystal Palace (*Architectural Review*, February 1937) and his series of articles 'Scenario for a Human Drama' (*Architectural Review*, July 1934–January 1935) are also valuable contributions to recent architectural history. Of other works Bruno Taut's *Modern Architecture* (London, 1929) and Sheldon Cheney's *The New World Architecture* (London, 1930) are both copiously illustrated, but there is a lack of philosophical balance in their writing. The latter is very downright, and ethical standards—the excessive use of such words as 'honesty', 'false'—are too often brought into what, after all, are matters of aesthetics. As a corrective to enthusiastic, unphilosophical, and indiscriminate praise of modern architecture, and abuse of Renaissance architecture, it is always a good idea to read a book like Geoffrey Scott's *Architecture of Humanism*. It contains some of the soundest arguments on the aesthetics of architecture in the language.

2. EARLY LIFE

1887-1918: Years of Studentship—The War

Modern psychology has demonstrated very convincingly the great significance of the early years of life in the formation of character and the development of individual ability. It is, therefore, of interest to give a few particulars of the early life of Eric Mendelsohn.

He was born on 21st March, 1887, in the town of Allenstein in East Prussia. Allenstein is a small town, with a population during the latter years of last century of about twenty thousand inhabitants. Its welfare was one of the major interests of Mendelsohn's father, who devoted much of the spare time of a busy merchant to the administration and organization of its affairs. His wife was a gifted musician, and the parents with their six children seemed, from accounts I have received, to have been a happy and united family. All the children were stimulated by their mother's enthusiasm for music, and they all wanted to be musicians with the exception of Eric, who had already, at the early age of five, resolved to be an architect. As an example of the enthusiasm for music among the family and their friends, young Eric organized a musical circle, the admittance to which was by playing one of Beethoven's piano sonatas by heart, Eric being himself the judge.

Mendelsohn was fortunate in his childhood, for his recollections are of almost unclouded happiness. The romantic old town of Allenstein and the surrounding country form a picturesque background to his early life. Near the Mendelsohns' home was the Gothic church and castle built by the German knights who conquered the country, and I am inclined to think that these familiar Gothic buildings, impressing themselves on the boy's mind, had something to do with the subsequent development of his visual imagination.

Another circumstance of significance was the close contact with nature and the life of the country that he enjoyed. The ideas of organisms and organic unity, of architectural forms obeying the same principles or

Figure 1. Law Court

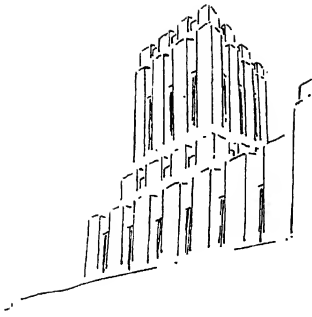


Figure 2. Temple of Light

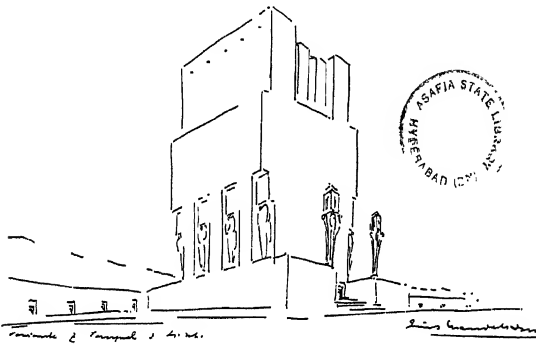


Figure 3. Cemetery

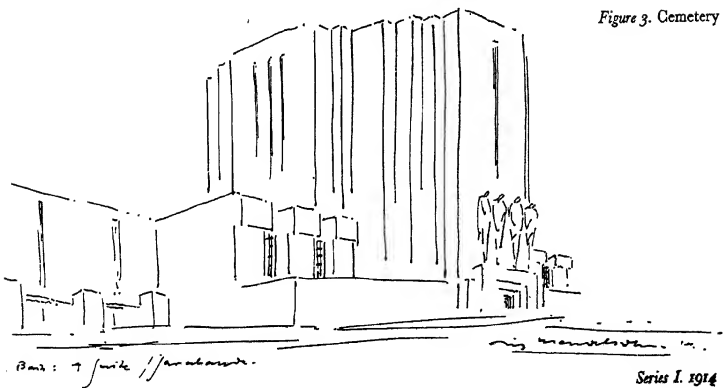


Figure 4. Steel mill

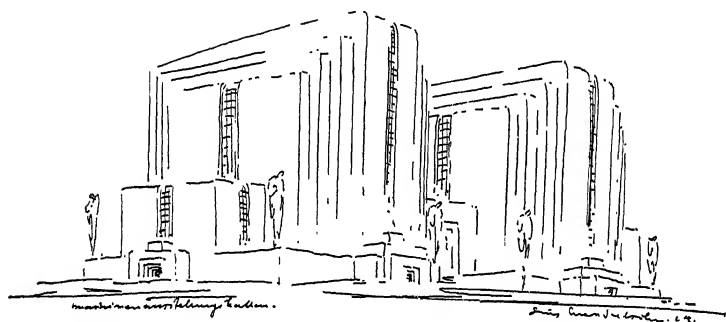
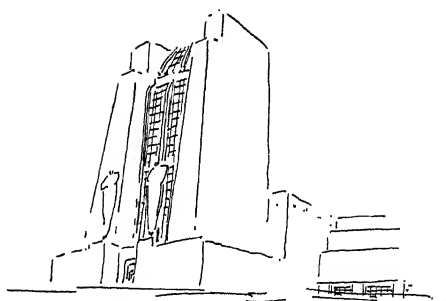
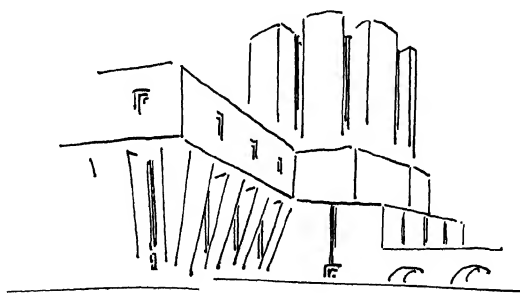


Figure 5. Exhibition hall



Figure 6. Gas works



EARLY LIFE

laws as natural forms that were to haunt his mind later on, might, perhaps, be traced to this early communion with nature. After all, one impression at the age of five when the mind is plastic is more strongly registered—whether consciously remembered or not—and is more likely to influence subsequent thought, than a hundred impressions at the age of forty, when the mind has become set.

One other circumstance of this early stage seems to me significant: namely Mendelsohn's early interest in the culture, politics, and art of ancient Greece. This enthusiasm in early life is by no means unusual, especially in the selection of Plato as his favourite Greek author. But in the case of an architect whose work is definitely non-traditional in the stylistic sense, it is worth mentioning that this early enthusiasm for Greece has left its mark on his work. The fabric of his life is shot through with this fervour for Greek art, and the lessons that he learned from the masterpieces of Greek architecture served as a steadying influence to his ardent, romantic temperament so often expressed in his buildings. The sense of monolithic repose that sometimes seems to embrace the dynamic energy of his buildings is due, I think, to Greek influence. Monolithic repose and dynamic energy may appear contradictions, but a recollection of the Columbus House in Berlin will demonstrate what I mean. One may have rhythmical lines of considerable movement confined in a general mass that suggests serenity and repose. Sir Giles Scott's work often expresses this combination, although much nearer to the actual traditional forms of Greek and Gothic.

In early manhood, in 1907, Mendelsohn was at Munich University studying economics. A year later he became a student of architecture at Berlin Technical University, and after two years there transferred to the Technical University at Munich, completing his architectural studies, after a further two years, in 1912, when he obtained his degree in architecture.

Immediately Mendelsohn had sat for his final examination he started working on his own. From 1912 to early in 1914 he was occupied chiefly with stage designing, painting, and with projects for various buildings. During this period in Munich he was greatly interested in the Expressionist movement, and was often in the society of many of its leaders. As this movement undoubtedly had some effect on Mendelsohn's mind and work, it is pertinent to indicate its nature and aims.

Expressionism is in a sense the counterpart in Germany to Post Impressionism in England, and they are both parts of the same movement, which began as a reaction from Impressionism. Impressionism is con-

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cerned essentially with the appearance of things, with visual images, patches of colour and tone, and effects of light without reference to their experienced reality. Dissatisfied with this attitude to the visual world, artists like Cézanne and Van Gogh wanted to express not only the mere appearance of objects, but their essential character, and to emphasize their reality as objects in space. Van Gogh, one of the great inspirations of the German Expressionists, not only expresses character, but represents landscape with an inspired feeling for the growth and the life of things. The difference between Impressionists and Post-Impressionists, or Expressionists, may be indicated most clearly by reference to philosophical definitions. When we first see an object we really see only a coloured shape. This mode of perception is called in the phraseology of A. N. Whitehead,¹ 'presentational immediacy'. We refer this coloured shape to our visual experience, and from the store of images in our minds we connect it with an object, say a table. This second mode of perception is called 'causal efficacy'. With the first mode of perception we know only the coloured shape, not what it signifies, and it is this mode that is the starting point and main interest of the Impressionist. The second mode is concerned with the actual use or nature of the object—that the coloured shape is a table—and this is the starting point of the Expressionist, or Post-Impressionist.

There were many developments of German Expressionism beyond the expression of the character of objects and emphasis on three-dimensional design that it shares with Post-Impressionism in general. Perhaps the principal further development was the expression of a certain pervading intensity of emotion, so that one feels that the picture derives unity not only from its formal design, but also from the emotional intensity that in many cases controls the character of the design. The main influences were outside Germany, chiefly Van Gogh and the Scandinavian artist Edvard Munch. In Van Gogh the emotional intensity and linear rhythm are inseparable, and both give a powerful visual unity to his pictures; and the same can be said of Munch, although in his case the emotion is not so strongly identified with aesthetic feeling. The emotion and rhythm do not spring, as in the case of Van Gogh, from the life of the world seen pictorially, as from human joy and anguish, which often give an emotional character to the objects represented.

The Bridge Group, of whom Kirchner, Heckel, Schmidt-Rottluff, and Nolde are the best known, represents an important development. Developing on the lines suggested by the work of Van Gogh and Munch, these artists not only sought to express the essential character of things,

¹ 'Symbolism: its Meaning and Effect' (Cambridge, 1928) pp. 20 *et seq.*

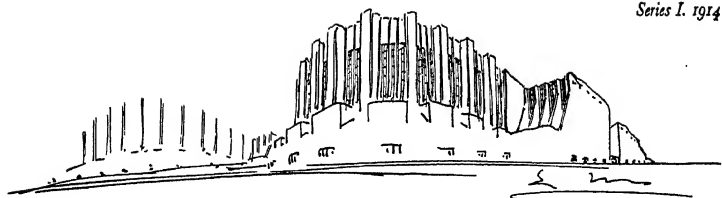


Figure 7. Industrial buildings



Figure 8. Industrial buildings



Figure 9. Factory in steel

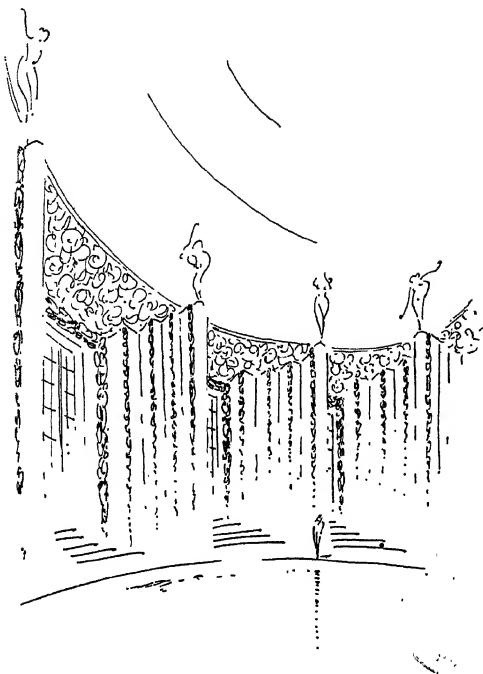


Figure 10. Private bath

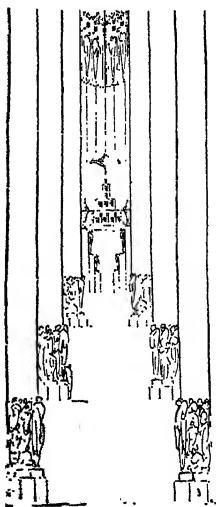


Figure 11. Beethoven's Ninth Symphony

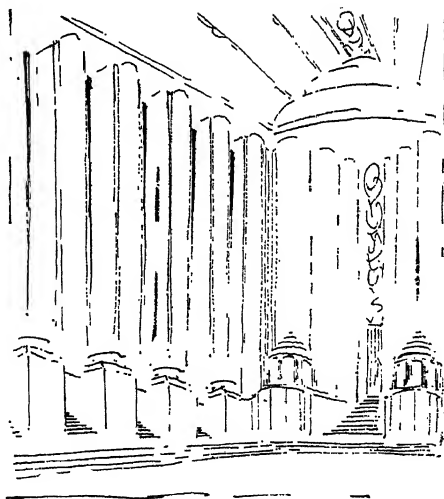


Figure 12. Crematorium

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but went further and sought to express what they called the inner significance, and this led them on to the world of pure imagination, fantasy, and dreams. This was the high road to Surrealism, and it only needed psychoanalysis to give scientific justification and a sense of integrity to their work. The title of the group means, I think, the bridge from the world of the senses, as expressed by the Impressionists, to the world of the essential and often hidden significance of things, and to the visionary world which often constitutes essential reality, as it reveals the instinctive needs of mankind.

Wassily Kandinsky is the philosopher of the Expressionist movement. He edited, together with Franz Marc, *Der Blaue Reiter* ('The Blue Rider'), which became the bible of abstract painting. Kandinsky's work shows a tendency so to emphasize the character of objects that the emphasis sometimes leads to a distortion beyond recognition. Later his work became entirely abstract.

These artists also sought inspiration from primitive art, for in the simplicity and directness of primitive art the essential character of things was powerfully expressed.¹

The more restrained developments of the German Expressionist movement, that of expressing the essential character of things, had a wide influence in various departments of art. The movement was most active from about 1904 to 1912, the year Mendelsohn had finished his academic studies at the university. He came too late really to be a part of it, but its influence on him is undoubtedly strong, and is apparent in his early sketches. The application of Expressionist aims to architecture is superficially fairly simple. The character of a thing and the purpose of a building are synonymous. The essential character of a building is determined by its purpose. Know therefore its purpose and you have its character, and the subject of architecture is the emphasis, or expression of that character. But Expressionism was, I think, a contributory influence in the association of organic life with architectural forms that became such an important principle in Mendelsohn's work.

In 1910 Mendelsohn met Luise Maas, a 'cellist, who became his wife in 1915; and it is in his numerous letters to Luise Maas that we may gather something of the young architect's character, and some idea of the development of his thoughts about life and architecture. It is obvious from these letters that in Luise Maas, Mendelsohn had a very sympathetic and encouraging recipient.

¹ The first exhibition of Modern German Art was held in London in July and August 1938, and many of the Expressionists were represented. Contemporary with this a Penguin Special, *Modern German Art*, was published.

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These letters reveal a young man of restless energy with an irresistible desire for creative work. The impression of a dynamic personality is very strong. 'Really happy only when work is piled up around me, and my hands can pass to any work that just demands them,' he writes from Munich in 1913; and in another letter about this time he rather poetically says: 'There is only sense and right in occupying oneself with Art, if one is like a mountain stream whose waters continually gush forth, and in the thunder of whose fall is borne the summons of their creator.' As early as 1910 he appears to have had a strong belief that civilization was at the beginning of a new era, and this belief, that is often expressed in his early letters, seems to intensify his restless creative spirit. In 1910 he had written: 'I believe that a new civilization is beginning, based upon the great conceptions of ancient times.' This belief, as is implied later, is due largely to the possibilities pregnant in modern industrialism and machinery, and to the new structural materials of steel and concrete which were beginning to change the appearance of cities and the lives and habits of men. He wanted to be a participating force in this new life. 'Everywhere new ideas, new achievements. How can one possibly look on idly, and not, with every fibre of one's being, desire to take a part?' occurs in a letter of 1913.

Early in 1914 he writes: 'Projects which are so great, and always pressing upon me, so that only the spirit of a new era—of freedom—can comprehend them. Often they come to me like images of an overstrained imagination, dreams of an ideal world which have taken shape before me, and whose monumental consciousness builds energies and masses as never previously. Even the immensities of Egypt, when faced with the living spirit of the future, seem but ruins and disintegrating romanticism.' A little later he continues in the same vein. 'Here everything changes; it is the turning point of a new spirit. This necessity lies heavily upon me. In the transports of conception it is still oppressive. But my hand is guided by destiny, so that I must follow, lead where it will.' Two years later, in 1916, still on the same theme, he says that 'a coming generation will record: Turning-point of civilization. Revolution a natural necessity'.

I wrote in the first chapter that Mendelsohn belongs to the romantics rather than to the classicists. He is a personal adventurer in the creative world, rather than one who strives to achieve perfection by adherence to classic precepts and principles, and there is ample confirmation of this in his letters written between 1913 and 1918. Following are a few extracts bearing on this subject so important to architectural development:

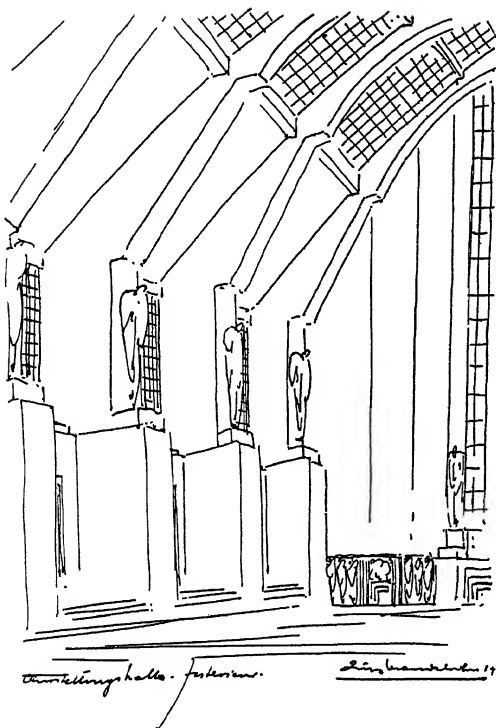
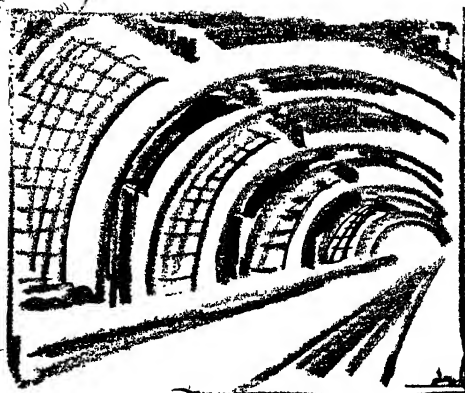
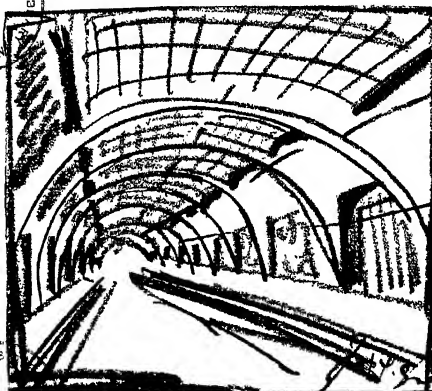
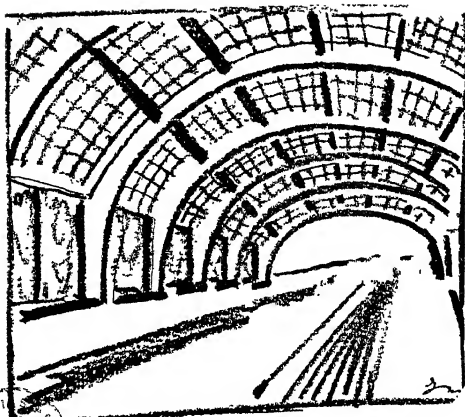


Figure 13. Exhibition hall



Figure 14. Exhibition hall



Figures 15-17. Railway stations

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'I detest everything that is cold and academic. Only where the living purpose exists will new things be formed.'

'He who is a fellow worker on the new, may only allow the laws, the essence of historical achievement, to stand by his side. But each form directly derived therefrom [in the sense of copying] must be interpreted as inability and ignorance.'

'I want response to my work to centre on its particular creative character, without reference to books which deal with already existing achievements. They are always there for comparison. I believe it is better to be able to concentrate unconditionally upon what comes to the mind, and so get a clearer comprehension of ideas. I feel more strongly that creation is my rightful work, and to me there is no reality beside that.'

'The old law has lost its power, and nobody has yet written the new law.'

In 1914 Mendelsohn began making those sketch designs of various types of building for which he has subsequently become so famous. Though in his conceptions he is of course influenced, consciously or sub-consciously, by the work of his predecessors, like Behrens, Van de Velde, and others, and the engineers of the nineteenth century, these sketches show considerable daring and originality and an artistic expression in terms of steel and concrete that was, at so early a time, unique. In many of the sketches the sense of the building as a machine fulfilling its purpose is very strong, and the emphasis of character is given as it is in the flowing lines of the more beautiful of modern transport vehicles. As Sheldon Cheney says,¹ Mendelsohn 'most rationally and most intensively—in projects and pictures at least—made buildings expressive of the "feel" of the machine'.

In the first series illustrated the emergence from traditional classical architecture is apparent. Not that traditional style or ornament is followed, but the forms and proportions with the emphasis on vertical masses, seem to me to derive from Greek work, as seen in the first five sketches. These characteristics are seen also in the first four of the series of interiors (Series II). There is a little more use of ornament in these, and in the chapel of a crematorium (Figure 12) the derivation from traditional form is clearly apparent in the use of engaged columns, bases, and plinths. But the main impression of these earliest sketches is that masses are treated broadly and simply with a definite vertical tendency, and what is particularly attractive is the relation of sculpture to these broad plain

¹ *The New World Architecture* (London, 1930), p. 97.

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surfaces. The second sketch of the series of interiors is inspired by the third movement of Beethoven's Ninth Symphony, which introduces the subject of the relation of Mendelsohn's design to music, the consideration of which I will defer until the next chapter, when further examples of the kind will claim attention.

Directly we come to buildings of a more purely industrial nature, as in the last two of the first series, and directly Mendelsohn begins to think in steel and concrete, a change occurs. The factory in steel (Figure 9) is stark and powerful, the masses are still vertical, but they stand up from the large windows like great white cliffs. Here the design is inspired by the sense of the power and vastness of the new industrial age. Again, in the last of the interior sketches of the second series (Figure 14) there is a complete change. It is a transformation of the traditional interior of the exhibition hall of Figure 13 to a hall thought out in terms of reinforced concrete. Distinct parts—pedestals, plinths, sculptures, and roof—related to each other give place to one sweep of wall and roof forecasting the reinforced concrete shell construction. It is a change suggested by the nature of the material, and it shows that after earlier emergence from a tradition inevitable in architectural training, the creative imagination of Mendelsohn almost at once acts in terms of steel, concrete, and glass; so that he is of the new era from the beginning, and is in no sense a 'converted' architect.

It is a logical development from the concrete hall to the three railway stations. These were clearly designed under the fascination of steel, reinforced concrete, and glass, and with a feeling for their possibilities.

The most impressive series of early sketches, produced in 1914, however, is the series that he calls 'Variations on a Theme for a Hall'. It should be understood that 'hall' in German has a much wider application than in English. The term comprehends any large one-room building, and is applied to buildings that consist of a large covered space with subsidiary rooms or offices like railway termini, aerodromes, and many factories. These sketches are really variations on a theme for industrial buildings (Series IV), and here one gets the impression of organic unity that is so successfully expressed in most of Mendelsohn's buildings, and which is a fundamental principle of architecture. The term organic unity explains itself, but it may be elucidated further by saying that a building should always give the impression that each part belongs to the whole, that one form grows out of another, and shows in its character its connection with the whole. Nothing should appear stuck on, as, for example, the top of the London Shell Mex House.

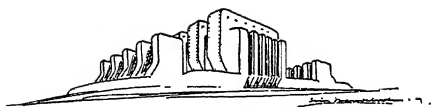


Figure 18. Chemical factory

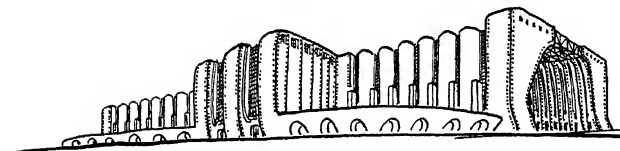


Figure 19. Grain elevator

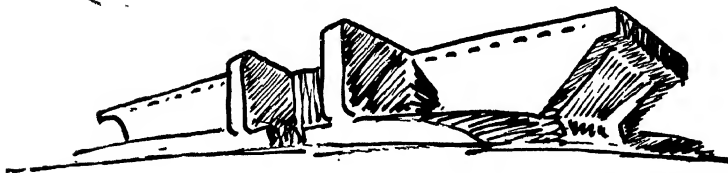


Figure 20. Warehouse

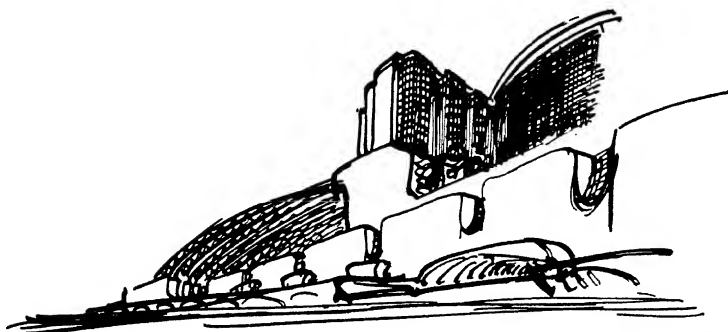


Figure 21. Factory in steel



Figure 22. Hangars



Figure 23. Goods station

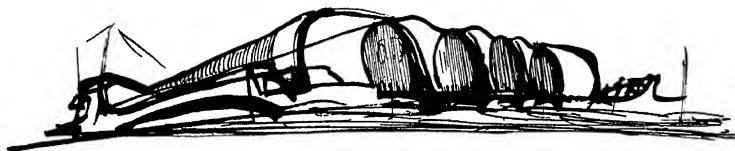


Figure 24. Railway station

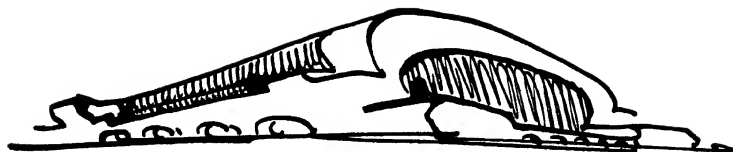


Figure 25. Railway station

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These variations on a theme show a given general mass varied for different purposes. In the first four sketches it is the same general massing in each—a central part with blocks extending on either side. The motif, set by the very nature of the grain elevator (Figure 19)—of its row of cylinders on either side of the central block—is taken for the factory (Figure 18). The division of central block and symmetrical flanking blocks disappears with the complete change of purpose in the aerodrome (Figure 22) and railway stations (Figures 24 and 25), but much of the character of the forms remain, as if one design leads on to and suggests another.

It is not an uncommon experience of artists that the form of one design suggests another, with a slightly different purpose. The process is clearly apparent in these designs, and the emergence of one design from another was clearly felt by Mendelsohn. He expresses the feeling very aptly and suggestively in a letter to Luise Maas in 1914: 'It is very late. The "Variations on a Theme for a Hall" do not come to an end, but that is inevitable, since every variation contains a new idea. This is certainly its original signification. One theme means only: uniformity of character, unity of the spirit! Variation can mean only: separation of vital form cells—each cell a new organism!'

Like some of the architects of America, who perceived in the demands of industrial life the architecture of the future, Mendelsohn saw the possibilities of grain elevators as subjects for design, with their large vertical and horizontal masses on a grand scale. In addition to the two in Series IV there are a further five in the next series, made in 1915, which, though more summary as sketches, indicate further variations.

Not many months had passed since the beginning of the war in August 1914 when Mendelsohn enlisted for military service with the Engineers. He wrote to Luise Maas: 'I am resolved to do my duty and so put to the test what Fate has in store for me.' After training he went to the Eastern (Russian) Front and was there for the best part of 1917. He was then transferred to the Western Front, where he remained until the end of the war.

He seems to have taken his war experiences very calmly, with a certain strange confidence that he would survive, and that he was destined to fulfil the promise that he felt within him. Not often does he directly refer to his military life, but when he does so it is with the mind of the artist. For example, while in the trenches on the Western Front he writes to his wife (Luise Maas, as before mentioned, became his wife in 1915, some months after he had enlisted): 'Out here the impossibility of allowing oneself to be diverted leads most men into stupidity. The horror of the Fate which

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is daily ready to fall upon us, the fact that lives are constantly so subject to limitation, must ever and anon bring an agitation, a longing to get behind the things which are, or understand this delirium, or at least to record it, and to take some part in this murderous and monstrous Fate. . . . But the law of self-preservation demands that one hold fast. Here contingencies of death celebrate Dionysian festivals, but the law of life demands the utmost. One must love life if one is to think "Live!" One must understand life in order to love it.

'Out of contrast Harmony alone can come; out of despair the finale's mystical embracing of the adagio. The binding of life with its form. Law of tension in matter and spirit.'

And while in the trenches he thinks of the possibility of an end of the folly of war: 'The curse of fear before the flash of the powder-magazine is past. We are bound to keep on hearing those explosions. I think then only of their prevention, if new spiritual forces can dissuade the world from the fleshliness of its war-might. Respect for the mystery of the world, producing a new religion, shall subordinate material power to the spiritual.'

While on active service he produced a large number of sketch designs, most of which were actually drawn in the trenches. A selection from these forms Series VI. He often writes of these sketches, and his letters constantly show his pre-occupation with design. The two sketch designs for an observatory (Figures 40 and 41) show his early interest in this type of building, an interest stimulated by Professor E. Finlay-Freundlich, the professor of astronomy, and collaborator of Professor Einstein. Mendelsohn had often visited observatories with Freundlich, and these visits prompted many experimental sketches. It was Freundlich's admiration of his sketches that was largely instrumental in his becoming architect of the Einstein tower.

The majority of the sketches of Series VI are of industrial buildings, and being made in the trenches many are exceedingly small, and drawn with considerable delicacy; yet however small the actual sketches they all succeed in giving an impression of size and scale. There is something exhilarating about most of them. Look, for example, at Figures 35 to 39. These five sketches each cover an area of about a square inch, yet all convey a sense of size in the buildings almost amounting to an impression of grandeur. In all these sketches the medium is clearly steel, concrete, and glass. A new architectural idiom, partially suggested by the materials, is here apparent, an idiom that belongs as much to the machine as to architecture. In one important particular these sketches are like many of the great buildings of the past; they give an impression of unity, that each

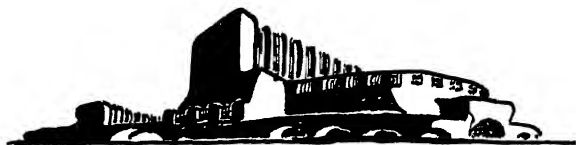


Figure 26. Film studio and cinema

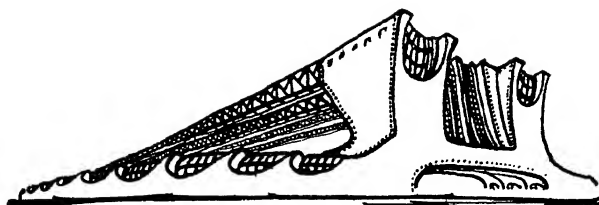


Figure 27. Motor-car chassis factory

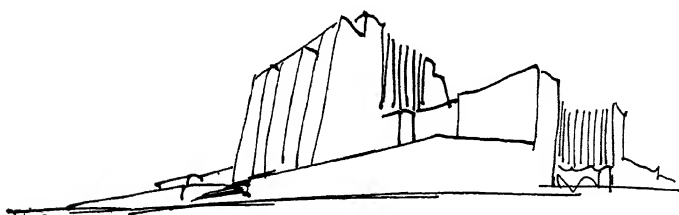
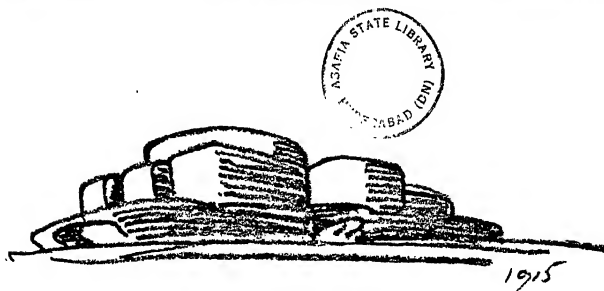
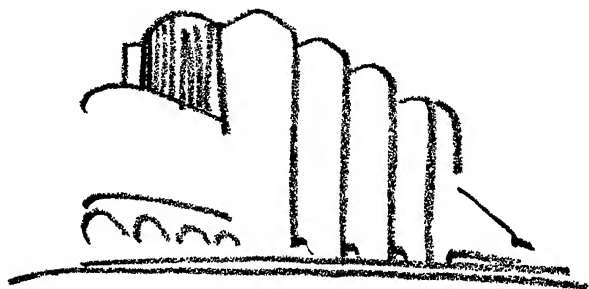
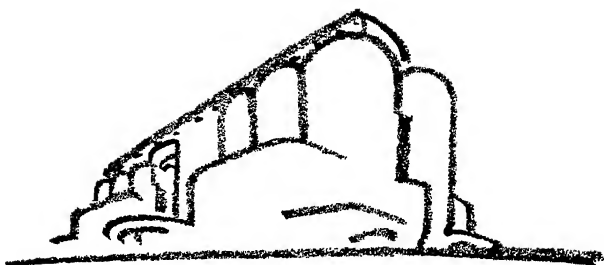


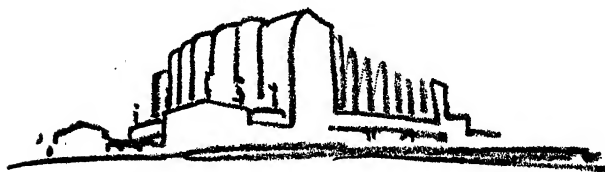
Figure 28. Crematorium



Figure 29. Goods station



Figures 30-33
Green elevations



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part belongs logically to the whole, and grows out of it like a leaf from a stem. There is, too, expression of purpose, and it is from this that a new style of architecture of this industrial age will evolve, and to which Mendelsohn has contributed so much. In the optical factory (Figure 52), for example, the particular forms of the design are expressive and symbolical of optical instruments, while the aerodrome and railway stations in Series IV (Figures 22, 24 and 25) are very clear examples of forms expressing the purpose of the buildings. I shall have further occasion to speak of this expression of purpose by suggestive use of forms when dealing with some of Mendelsohn's important works like the Einstein tower and his store buildings, for in this expression is the promise of a new and living architectural style.

Mendelsohn returned from the War on 7th November, 1918. He lost no time in making the change from military to civil occupation, for two days later, on November 9th, he started practice on his own as an architect.

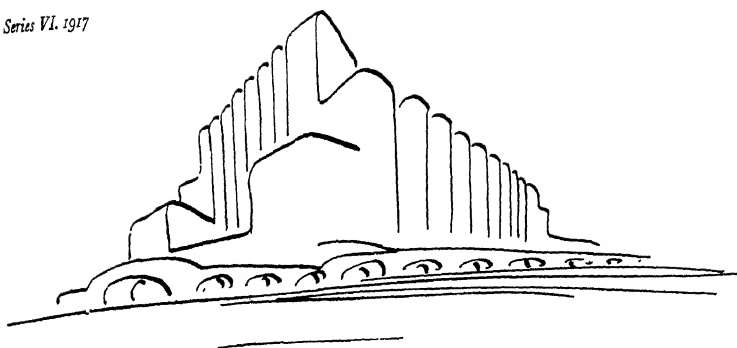
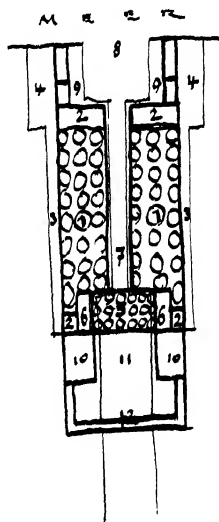


Figure 34. Central grain elevator

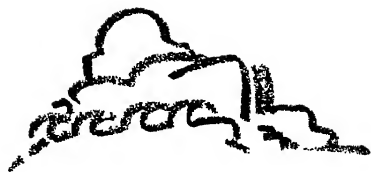
Plan

1. Silos for incoming grain by rail
2. Elevators
3. Ramps
4. Railway stations
5. Silos for outgoing grain by sea
6. Elevators
7. Canal
8. Harbour
9. Quays
10. Administration
11. Inner harbour for incoming grain by boat
12. Shops and staff accommodation





Figures 35-38. Industrial buildings
Figure 39. Water tower



Figures 40 & 41. Observatories

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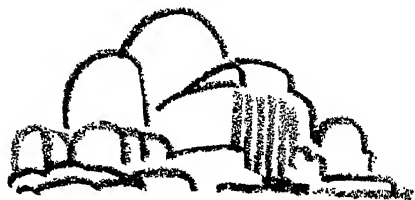


Figure 42. Sacred building

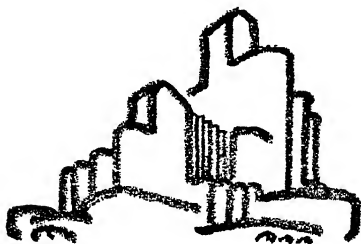


Figure 43. Factory with crane

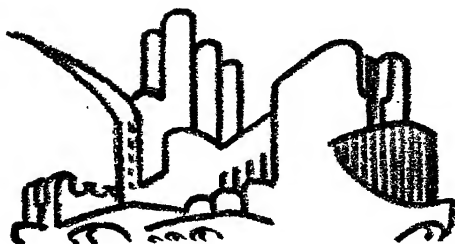




Figure 44. Warehouse



Figure 48
Film studio



Figure 49
Exhibition entrance



Figure 50
Triple hall

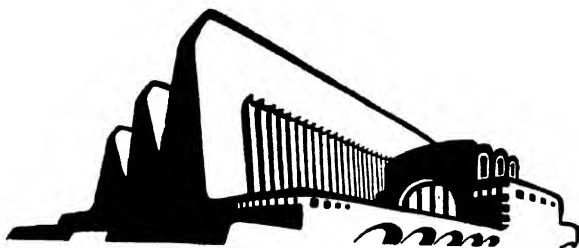


Figure 51
Theatre—elevations





Figure 52. Optical factory and plan

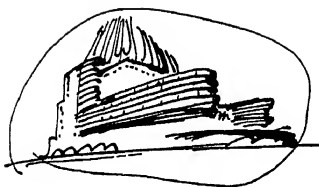
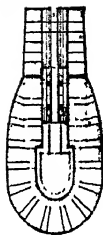


Figure 53. House of Friendship

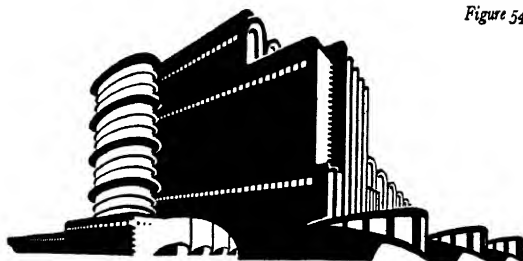


Figure 54. Goods depot

3. EARLY YEARS OF PRACTICE

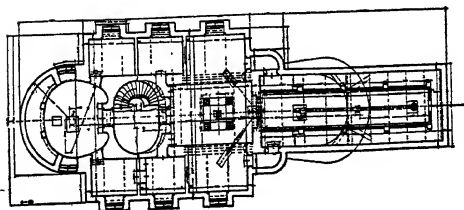
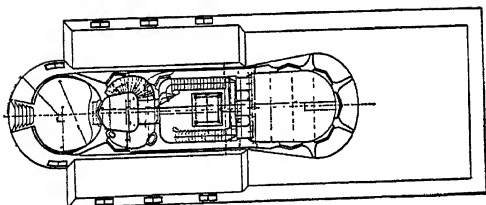
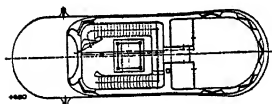
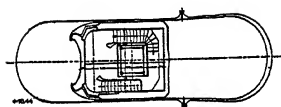
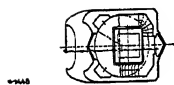
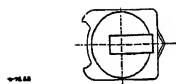
Germany 1919-1923

As in most European countries, building in Germany had been in abeyance during the Great War. With the termination of hostilities and the change from war to peace conditions, bringing with it the desire for the recovery of the amenities of peace, there was necessarily a large building programme. But Germany's financial condition was far less secure than that of the Allies, and in her building a stricter economy had to be observed. There was little money for non-essentials, little money for palatial façades dressed with classic architecture. Little could be spared beyond the demands of necessity; and the ironical fact is that with these economic restrictions Germany produced the greatest post-war architecture in the world.

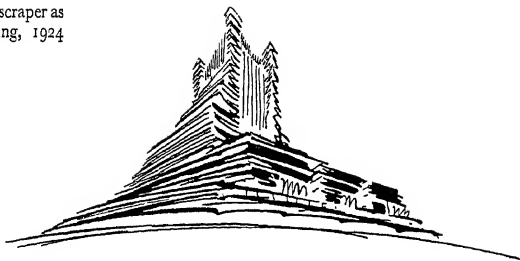
In the spring of 1919, shortly after Mendelsohn commenced practice he staged an exhibition of his sketch designs, with the intention of demonstrating what ought to be done in building, and of suggesting an architecture that should be a true expression of the age. The exhibition he called very significantly, '*Architecture in Steel and Reinforced Concrete*', and it was held at Paul Cassirer's Galleries in Berlin. I dealt with many of these sketches in the last chapter, and if the reader can imagine the stage of general architectural development in 1919, even bearing in mind the work of the pioneers of the new architecture in Germany and elsewhere, and then look at the selection of the sketch designs here reproduced he may be able to form an idea of the effect of these sketch designs on contemporary thought. One writer said that the world was startled; another, ironically enough W. C. Behrendt, said (evidently basing his ideas on traditional styles) that this was not architecture. Suffice it to say that the exhibition dramatically arrested the attention of the architectural world, and that as it has receded into history the general feeling is that it was an important milestone in architectural evolution. The feeling among the new architectural generation is well expressed by Sheldon Cheney¹ when

¹ *The New World Architecture* (London, 1930), p. 97.

Figures 55 a and b
Einstein Tower, 1920
(a) Sketch. (b) Floor plans



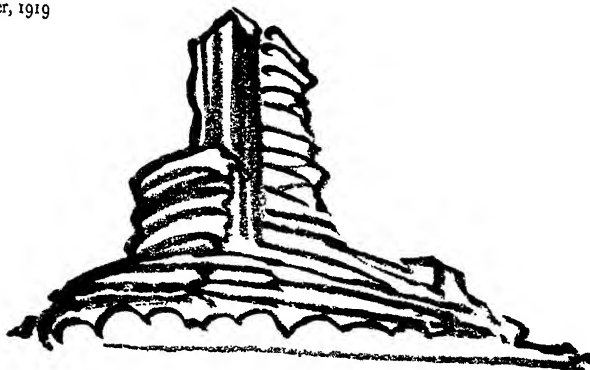
*Figure 56. Skyscraper as
sacred building, 1924*



*Figure 57. Skyscraper in
reinforced concrete, 1919*



Figure 58. Skyscraper, 1919



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he says, 'Here there is no question about the originality, vitality, and machine-massiveness of the designs. Nothing could be further from echoing a lingering past, from stylistic tag-ends and souvenirs. Rather, here young Germany, the after-the-war generation, spoke out clear and strong, and with the assurance of power. These designs began with utter simplicity and structural truth, and carry on with creative shaping. They are only projects . . . but they have helped to determine architectural engineering thought over a decade past.'

Among the earliest actual buildings by Mendelsohn was a hall for a hat factory, built for Hermann & Company at Luckenwalde. It was a steel-frame building, the steel ribs of the principal wall and roof in a continuous outline, with an arc form at the angle. The windows in the principal wall were of such size that the wall consisted almost entirely of glass—a use of glass for factories familiar in England only after 1930. This building was, unfortunately, burnt down in 1925.

But Mendelsohn's first important work was the Einstein Tower at Potsdam, built in 1920-1. It will be remembered that in 1919 Einstein profoundly impressed scientists with his now famous theory of relativity, and in consequence the German Government built the tower at Potsdam for further researches on Einstein's theory. The building is a combination of a cupola observatory and astro-physical laboratory for the investigation of spectro-analytical phenomena, especially in relation to the theory of relativity.

I mentioned in the last chapter that by his friendship with Finlay-Freundlich, Einstein's collaborator, Mendelsohn had made sketches of observatories, which greatly impressed Freundlich. Freundlich had therefore suggested to Einstein and the authorities of the Potsdam Observatory that Mendelsohn would be a suitable architect for this new observatory. The success of Mendelsohn's design is now too well known to need more than a brief description.

Mendelsohn's final sketch, as will be seen from the reproduction, is remarkably like the finished building. It was conceived in reinforced concrete, and commenced in that material, but owing to the difficulty at the time of procuring adequate quantities of cement, it was continued in brick, of which the main body is built. The top part was finished in concrete, and the whole was faced with cement rendering. It may be stated with regard to the technical purpose of the building that the coelostat in the cupola reflects the rays emanating from cosmic sources of light perpendicularly into the subterranean laboratory. Here they are refracted by means of an optical square with an inclination of 45 degrees to the instruments for developing, comparing, and measuring the spectra.

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When the observatory was finished Mendelsohn conducted Einstein round the building, and he was naturally anxious to learn the great scientist's opinion of it. Einstein went round the building and examined the interior, but said nothing. Hours later, during a meeting of the building committee and the architect held in the main observatory, Einstein suddenly got up, crossed the room, and whispered in Mendelsohn's ear: 'Organic'. There certainly could be no better comment, for whatever may be said of the building, undoubtedly it gives an impression of organic unity; each part is schematically related to and grows out of the whole.

The building is now one of the most famous in Europe and has been variously admired and criticized, the latter chiefly by traditional architects, to whom the new architecture is rather like a red rag to a bull. Of one thing we can be certain, that few buildings have expressed and symbolized their purpose more convincingly. It offers a dramatic contrast to the Radcliffe Observatory at Oxford by Robert Adam and James Wyatt, with its dressing of classic pilasters and ornament which have nothing whatever to do with the building's purpose. The very shapes that compose Mendelsohn's building, on the contrary, both as a general mass and in the details: these rounded forms—there is hardly a straight line in the building—are all expressive of optical instruments; and in these forms, and the deep window recesses, allowing impressive play of light and shadows, there is expressed something of the mystery of the universe, of which it is one of the concerns, or rather, dreams, of astronomers and physicists to penetrate.

From 1921 to 1923 Mendelsohn was engaged on his first large industrial building, namely the hat factory at Luckenwalde for Friedrich Steinberg, Hermann & Company. The particular process of hat production, requiring easy transmission of power and steam, made it necessary for the sheds for the wet operations, the dye works, and the power station to be situated in the centre of the block. The factory, therefore, consists of four long sheds running from east to west, with dye works in the centre on the south side, and the power station in the centre on the north side. The site allows for extensions if necessary; thus the sheds are so constructed as to be easily extended at both ends. It is constructed of reinforced concrete framework throughout, poured *in situ*, with brick walls and ruberoid roofing. The two illustrations give a good idea of the method of construction. The sheds are a series of triangular concrete arches curved at the springing. The construction of the dye works is particularly interesting, as it consists of two tiers of concrete arches, the upper supported on the lower, as will be seen in the illustration. The

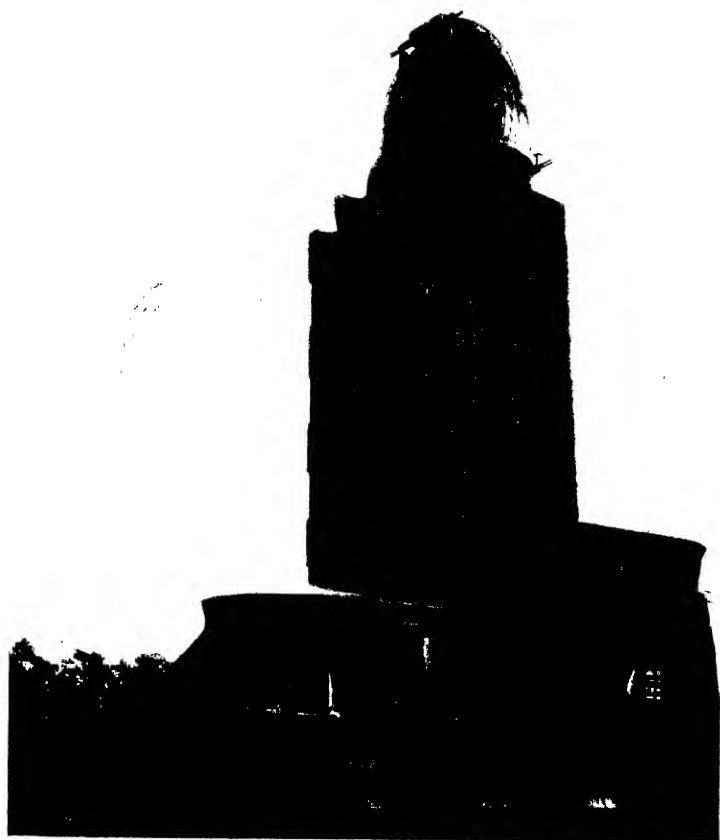


Plate 2. Einstein Tower, Astro-Physical Institute, Potsdam, 1920



Plate 3. Hat factory, Luckenwalde, 1921. View of dye-vat through gate-keeper's lodge

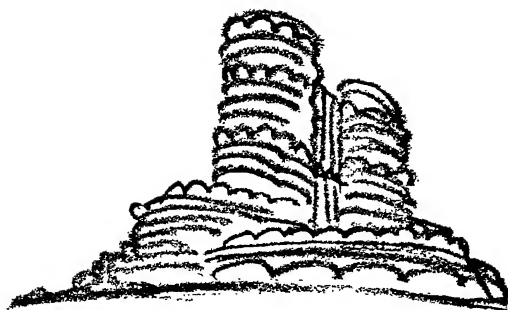


Figure 59. Skyscraper, 1919

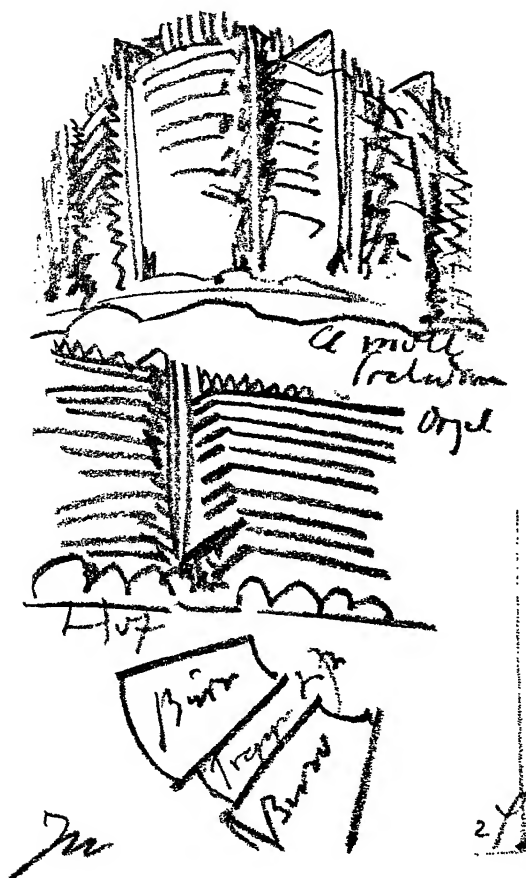
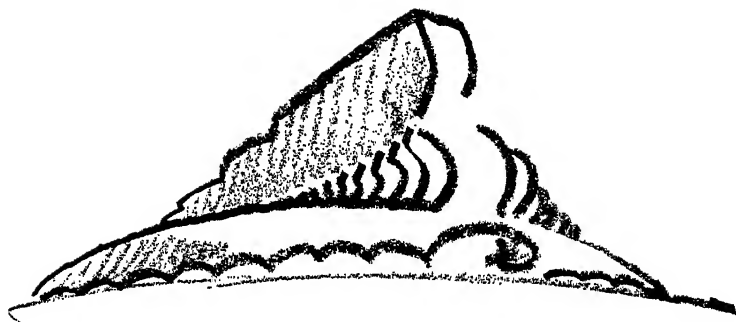


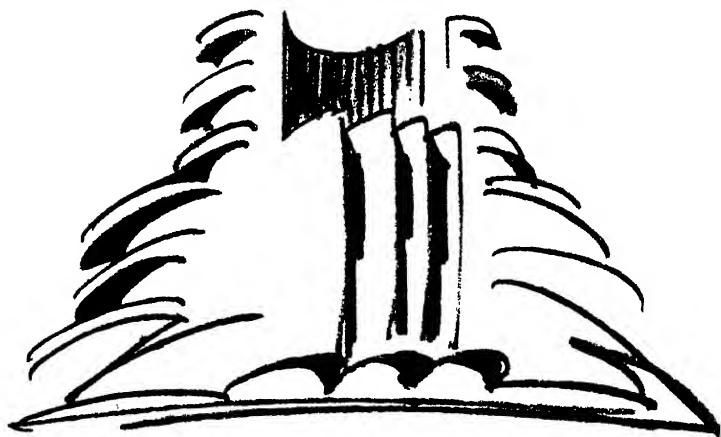
Figure 60. Skyscraper, 1924



Series VIII 1919-20

Figure 61. Dune architecture

Figure 62. Bach Toccata in C Major



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sense of structural firmness, and the rhythmical sequence from the lower to the upper arches is particularly satisfying, and makes it a construction of some beauty.

These dye works constituted an entirely new type, which Mendelsohn invented. The part enclosed by the upper arches consists of the drying loft, and forms a kind of chimney over the whole length. The ventilation provided by this construction effects extraction by a continuous stream of air along the whole extent.

It will be impossible to record in detail all Mendelsohn's early buildings. As photographs and descriptions of most of them have been published and are well known, it is more important to reserve space for consideration of his later, maturer work. It must suffice with many of the earlier works of less importance to enumerate, and give a brief indication of character.

From 1921 to 1923 four buildings for which he was responsible, and which I think should be mentioned, are the semi-detached houses at Charlottenburg, the silk store at Gleiwitz, Upper Silesia, the power-station at Wüstegiersdorf, and the additions to the building of the *Berliner Tageblatt*. The semi-detached houses are interesting in many ways. They occupy a corner site of the Karolinger Platz, and the plan shows a very ingenious and convenient dovetailing of parts. The building has a triple corner effect, while the emphasis gives a horizontal movement, enhanced by the channels between the brick facing of the upper part. The horizontal emphasis is pleasingly echoed in the fencing round the houses.

In the Weichmann silk store the noteworthy feature is the long horizontal emphasis, with staircase turret at one end. The site was awkward, being long and narrow, with triangular formations at the back. But here we can see the beginning of that impressive use of horizontals that is associated with much of Mendelsohn's work. Between steel framed windows he here uses long, unbroken bands emphasized by cornices, so as to dramatize the effect. The theme is continued in the power-station of the Meyer-Kauffmann Textile Works at Wüstegiersdorf in Silesia, and we have a similar horizontal emphasis with a prominent staircase turret at one end, as if to arrest the movement. This motif of a horizontal movement arrested at a particular point by a square or circular form usually enclosing a staircase was to become a prominent characteristic of Mendelsohn's work. He was not always able to develop it, because exigencies of site would not always allow the desired length of horizontal movement in relation to the arresting feature, but where he was able to have the

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necessary space for his theme the results, as we shall see later, were impressive.

After the Einstein Tower and hat factory perhaps Mendelsohn's most interesting building up to the year 1923 was the addition to the *Berliner Tageblatt*¹ building in Jerusalemstrasse, which he erected with Richard Neutra as collaborator. The additions consisted of two stories, with an extra story at the corner, on the existing sandstone building, and a complete new corner façade. The old building was a typical late nineteenth-century construction of grooved masonry, and the usual way of making additions to such a building, at least in England, is to continue the style of the old building, even if you use a steel frame. But not so in the *Berliner Tageblatt* building. On the old stone nineteenth-century building is grafted a structure in the new style, with long horizontal lines, and horizontal windows as opposed to the vertical windows of the old building. The additions are constructed with a steel frame encased in concrete and faced with cement rendering. Strips of glazed tiles form a dividing line between the old and new buildings, and also to give horizontal emphasis here and there. Aluminium strips are used in a similar way. The canopy projecting twelve feet over the central entrance is a noteworthy feature, and for 1923 is rather a daring effect. Mendelsohn, it appears, had some difficulty with the authorities over this, for writing to his wife he says: 'I hope, with the model before them, to be able to make it clear to the big-wigs why the rings of the canopy project so much from the wall of the façade. The canopy must be carried out, otherwise the deeper notes being lacking, the whole composition will be out of harmony. And that is by no means possible.' It is pleasing to think of such a resolve emanating from artistic conviction.

Although the additions to the *Berliner Tageblatt* building are totally different in character from the original building, I do not think discord is the result. Indeed it is remarkable how well they accord. It is true the buildings are clearly separable, but though separate I think they are harmonious, chiefly because of the satisfactory relations of the main masses. There is another aspect of this interesting experiment. To an old building additions are made in the living contemporary style. In London, if we make additions to existing buildings, as for example, to the Bank of England, or if we erect buildings in the vicinity of important old buildings, the new work is built in the style of the old. By this process architecture cannot be expressive of contemporary life, but is an imitation of old work,

¹ The *Berliner Tageblatt* ceased separate publication on January 31st 1939, being incorporated in the *Deutsche Allgemeine Zeitung*.



Figures 63-66. Pleasure pavilions, 1920

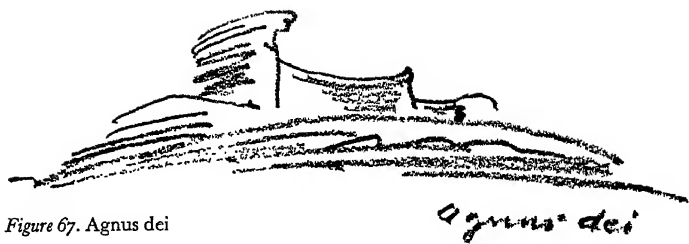


Figure 67. Agnus dei

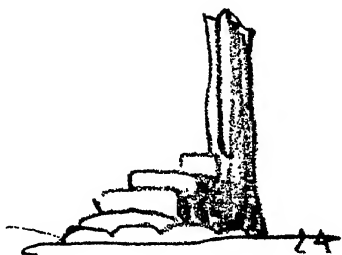
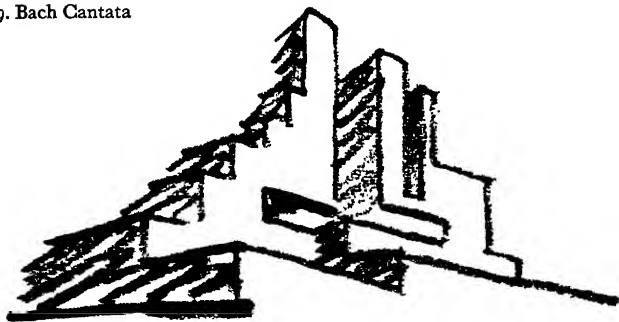
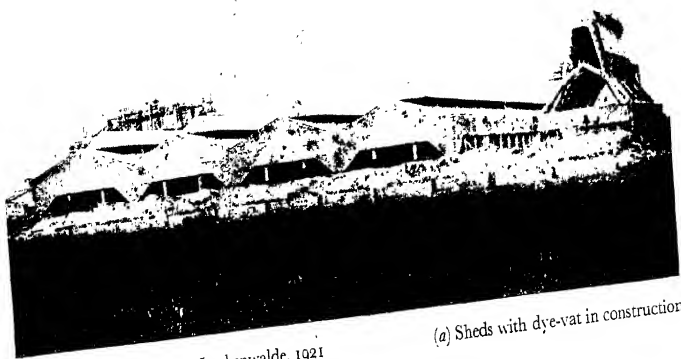


Figure 68. Brahms Quintet

Figure 69. Bach Cantata





(a) Sheds with dye-vat in construction

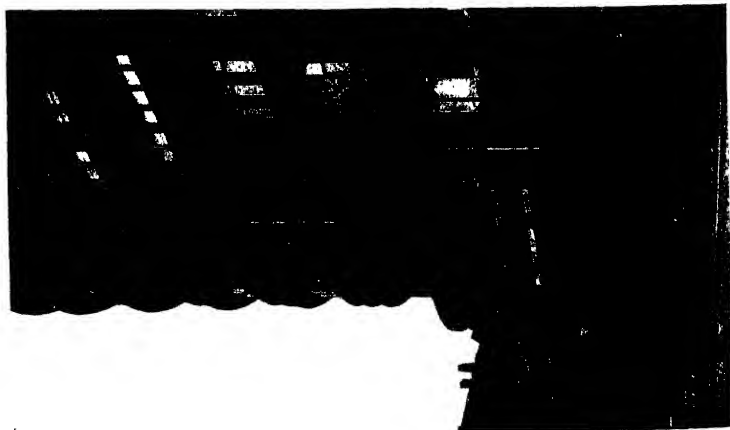
Plates 4 a and b. Hat factory; Luckenwalde, 1921



(b) Construction of sheds in reinforced concrete



Plate 5. Berliner Tageblatt
building, Berlin, 1923



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which, as it happens, was itself the imitation of an ancient style. This is not how the great Gothic architects built. If a part of a cathedral was destroyed, or additions were needed, the new work was not in the old style, but in the contemporary living style. So it is with this *Berliner Tageblatt* building; and if architecture is to be a living art, expressing the materials, tendencies and conditions of the life of our time, then it must not be victimized by old buildings imitating classical architecture, as it is in the new Regent Street, in the banks grouped round the Royal Exchange, and the Dominion buildings round Trafalgar Square. The *Berliner Tageblatt* building is a lesson that all architects and all building authorities should take to heart, for in it is the vital seed of architecture as a living art.

Mendelsohn continued to produce sketch designs, often in series, and often prompted by his studies of natural forms and by musical rhythms. Series VII is a selection from a number of sketch designs for skyscrapers that he made in 1919. It will be noted that although they are skyscrapers, where one expects the height, as in American skyscrapers, to be emphasized by vertical forms, the contrary is here the case, for most of the sketches show rather the emphasis on horizontal forms, as if the building is built up by layers from the ground plan. This is especially noteworthy in Figures 57, 58, 59 and 60. Yet this effect of layers in no way diminishes the sense of height.¹

Although I shall have occasion in later chapters to deal with Mendelsohn's views expressed in lectures that he has given from time to time, it is opportune here to note what he said in 1923 on this question of horizontal emphasis, which is such a marked feature in most of his buildings. The remarks occur in a lecture on 'Dynamics and Function'. He says: 'A new rhythm has seized the world, a new movement. The man of the Middle Ages, out of the horizontal calm of his contemplative working-day, needed the vertical cathedral in order to find his God high above him. The man of our day, out of the excitement of his rapid life, can find compensation only in an unrestrained horizontality. Only by the will to realize facts will he be able to master his unrest; only by the highest degree of speed can he conquer his haste. The rotating earth stands still.'

Of the sketch designs in Series VIII, the first is an impressive sketch inspired by the remembrance of the contours of a sand dune; while the sketches shown in Figures 63 to 66, especially 64 and 65, are prompted by shell forms. They have that particular spiral rhythmical movement

¹ This idea appears in American architecture fifteen years later. The McGraw-Hill building is an example.

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associated with such forms, and they are appropriately brought into being by reflections prompted by a project for a pleasure pavilion.

Series IX are chiefly sketch designs of sacred buildings. Figures 68, 69, and 72 show a definite relationship, as if one had grown out of the other. The method emanates definitely from organic feeling; the nature of one design suggests by its character additions or variations. This series is particularly impressive as conveying an exhilarating sense of size. They are all on the grand scale.

The name of a musical composition is given with some of these sketch designs, indicating that the sketch was made during its performance. Quite a number of the sketches to which no such indication is given were made in the same circumstances. It seems, therefore, that some of Mendelsohn's best sketch designs are made under the influence of music. The composers mentioned are Bach, Beethoven, and Stravinsky, but it is the first who provides the most felicitous conditions for his architectural imagination.

The reason why he is creatively happy while under the influence of music is that music first of all provides release from the cares and pre-occupations of a busy architect. That music gives freedom to the imagination is a common experience; it is all that many people get, or trouble to get from music. It is enjoyment, but it is not musical appreciation, and is not by any means the greatest enjoyment afforded by music. True musical appreciation depends, after all, on the conscious apprehension of the relations of musical forms, and the rhythms that these produce. Now most artists are apt to visualize the external world and the arts in terms of their own particular art. The painter looks upon landscape spatially and pictorially, the poet as something to be translated into the movement of words. The painter, sculptor, or architect, deeply influenced by music, is apt to translate musical forms and rhythms into the terms of his own art, so that musical rhythm often resembles in the painter's or sculptor's mind the drawing of Botticelli or of Agostino di Duccio. So the architect listening to music often sees the rhythmical movement patterned in space, and this I think is Mendelsohn's experience, but in his case more vivid than is usual. I do not suggest that Mendelsohn's experience is not shared by many architects, but in no architect, as far as I am aware, has the musical experience been translated into such dramatic architectural realizations. It may be contended, however, that in Mendelsohn's case the music merely provides the release, and that there is no connection between the musical forms and the architectural forms of his sketches. It is possible, however, to perceive a connection, and the reader can judge for himself

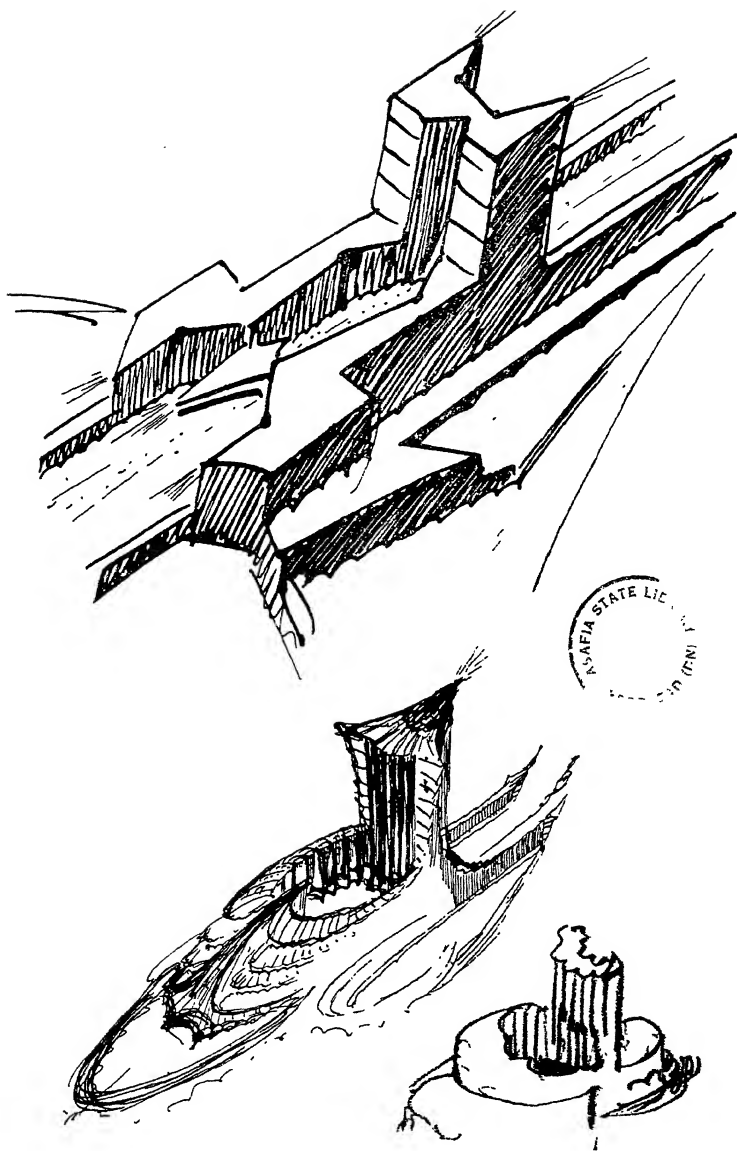


Figure 70. Three stages of sketch for bridge-head, 1921

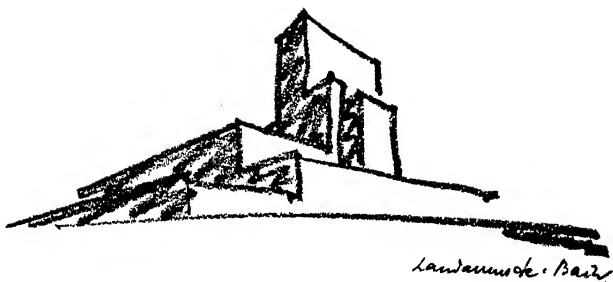
Series IX



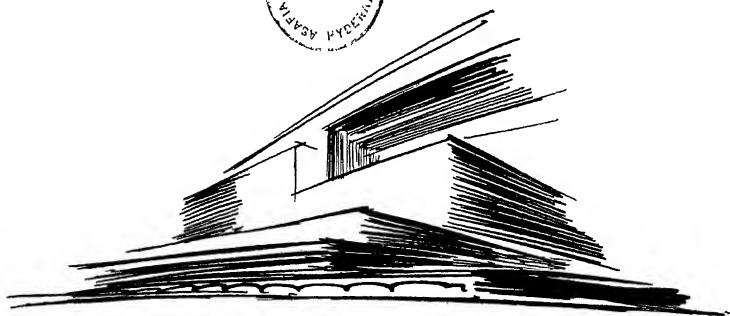
Figure 71. Sacred building, 1921

Figure 72. Sacred building, 1924

Figure 73. Sacred building, 1923



Landmannsk. Baur.



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from the few examples shown. In the second sketch of the second series the step-like form is a clear translation into space of the third movement of Beethoven's Ninth Symphony. And in the sketches inspired by the music of Bach, the suggestion of power, of dynamic counterpoints, and of variations upon themes, the architectural forms have a marked relation to the character of the music. Mendelsohn rarely had an opportunity of realizing these architectural fantasies in actual buildings, but they have proved an influence. That these fantasies had to be restrained and modified by practical exigencies is probably an advantage, yet this musical experience affected the character of his buildings to a great extent; the grand rhythmical feeling so often apparent being clearly due to its influence. I shall have occasion to refer to this again when dealing in a later chapter with the aesthetic character of Mendelsohn's work.

The first country outside Germany to respond with something like enthusiasm to Mendelsohn's work was Holland. A little while after the exhibition of his sketch designs in Berlin in 1919 he was approached by H. T. Wijdeveld, the editor of the important Dutch architectural journal, *Wendingen*, for material for an issue, and this appeared copiously illustrated with reproductions of sketch designs and of his work up to date. The impression made on Dutch architectural circles may be gathered from the circumstance that soon afterwards Mendelsohn received several invitations to lecture in Holland, and these invitations he accepted in 1919 and 1923.

Holland is thought by some to have shared with Germany the position in the vanguard of the new architecture, indeed some have given more credit to Holland, although I find it difficult to follow this view. But certain it is that with such architects as Berlage, de Klerk, Oud, Dudok, and Van der Vlugt, Holland has made an important contribution to modern architecture, especially during and immediately after the War. Development was, therefore, more continuous. Mendelsohn's reactions to the new architecture in Holland are noteworthy and are recorded in letters to his wife. 'Oud is functional', he writes, 'so as to talk with Gropius. Amsterdam is dynamic. A union of both trains of thought is conceivable, but not likely to be admitted in Holland. The first sets ratio before everything: perception through analysis. The second sets perception through vision. Analytical Rotterdam refuses vision; visionary Amsterdam does not understand cold objectivity. Certainly the primary element is function; but function without sensibility remains mere construction. More than ever I stand by my reconciliatory programme. Both are necessary, and both must find each other. If Amsterdam goes a step further towards ratio, and

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Rotterdam's blood does not freeze, then they may unite. Otherwise, Rotterdam will pursue the way of mere construction with deathly chill in its veins, and Amsterdam will be destroyed by the fire of its own dynamism. Function plus dynamics is the challenge.' To make these illuminating remarks on Dutch architecture immediately following the war fully intelligible it should be explained that, in his lecture on 'Dynamics and Function' given in 1923, Mendelsohn defines dynamics in architecture as the logical expression of movement and countermovement of the innate powers in building materials like steel and reinforced concrete; and function as a matter of space and form dependent on conditions of purpose, material, and construction. Later, in the course of a conversation, he more aptly defined architectural dynamics as the expression of the stress or tension of an elastic building material, forming the core, within the immovable stability of the building itself. It is, of course, well known that J. J. P. Oud was responsible for a large number of mass housing schemes on rationalistic lines in Rotterdam, and that he is associated with Gropius's doctrines of rationalism and standardization.

In 1923 Mendelsohn was invited to Palestine to design a power-station at Haifa for Ruthenberg's electrification project. The building was to consist of a dynamo shed, workshop, water tower, and transforming shed. Mendelsohn's design, which can be seen in the illustration, was in reinforced concrete with steel roofs. The long, square, horizontal character is a premonition of his Palestine buildings some years later. This design was never executed.

A little later Mendelsohn, in conjunction with Richard Neutra, entered the competition for a business centre at Haifa, and their design obtained the first prize, although for various reasons the project was abandoned. The design differs considerably in character from Mendelsohn's German buildings, due mainly, of course, to the different climatic conditions. The special problems presented by these different conditions I will deal with in the chapter on Mendelsohn's work in Palestine after 1933.

The design for the business centre at Haifa, which involved the preservation of an old Arab building and fountain, formed a series of blocks facing the sea, comprizing bazaars, cafés, cinema, shops, flats, bank, hotel, and offices. The design aimed at uniting these diverse elements in one uniform structural block, and it was arranged so that long horizontal façades, consisting chiefly of the bazaars and cafés, should face the sea, and that the blocks should mount in sequence culminating at a certain point in the large block of office and other buildings, while rows of shops

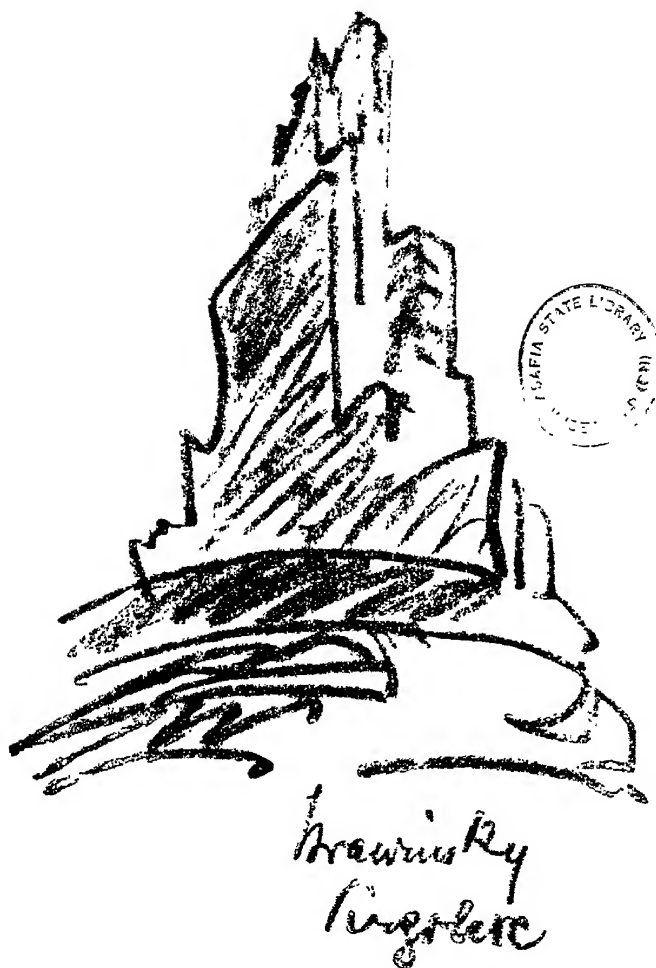


Figure 74. Sacred building

Series IX

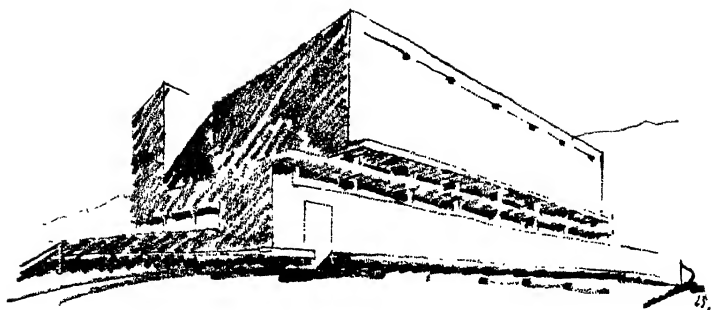


Figure 75. Ruthenberg Power Station, Haifa, 1923 (project)

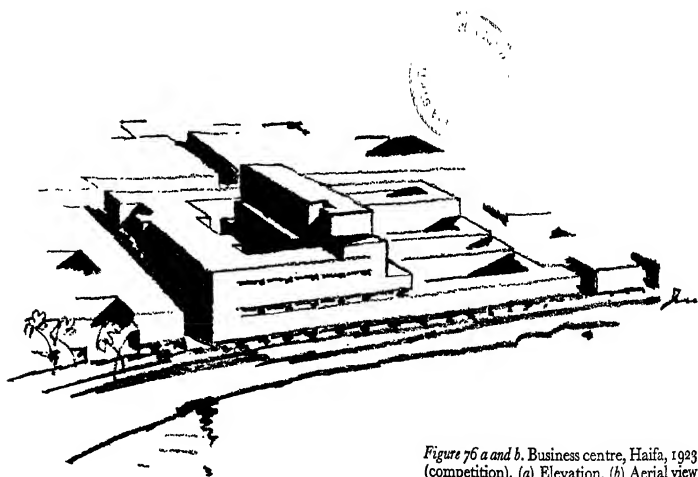
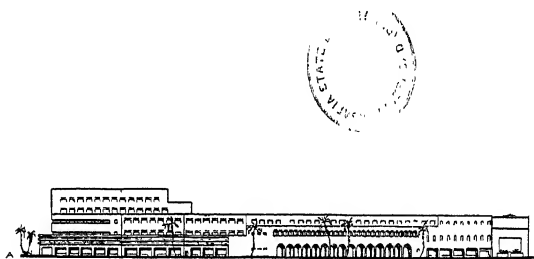


Figure 76 a and b. Business centre, Haifa, 1923 (competition). (a) Elevation. (b) Aerial view

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mounted in terraces from the sea front so that as much as possible should be open to the sea breeze.

Although these early Palestine projects were never realized, the experience Mendelsohn thus gained in design for that country, with its totally different climatic conditions, was invaluable when, ten years later, he was called upon to do some important work there.

4. THE BUSY ARCHITECT

Germany 1924-1927

Every type of building ultimately acquires its own unique and distinct form, and the course of true architectural evolution is towards that condition by which the form of a building is so married to its purpose that it is thereby distinguished from all other types of building. The large departmental store is a type of building that had come into being during the last century, but it is only in the last fifteen years that the most appropriate form has been evolved, and this has been due largely to the influence of Mendelsohn's impressive examples, which constitute some of his finest work.

Before 1923, with a few Parisian exceptions (more noteworthy, however, for their steel and glass interiors), the departmental store hardly differed in general appearance from a municipal, office, or bank building, and very often it was made to look like a Renaissance palace, as one well-known example in London. As noted in the first chapter, movement toward more appropriate expression of purpose of the exterior is seen in such buildings as Messel's Wertheim store. But it was only when the full possibilities of steel and reinforced concrete construction were utilized by Mendelsohn in designing the Herpich fur store in the Leipzigerstrasse, Berlin, in 1924, the Schocken stores at Nuremberg, Stuttgart, and Chemnitz, in 1925, 1926, and 1928 respectively, and the Petersdorff store at Breslau, in 1927, that the most appropriate form of the departmental store was evolved.

The departmental store consists generally of one large room for each floor occupying nearly the whole area, with small auxiliary offices. Each room requires as much light as possible, therefore the traditional series of vertical windows placed at intervals in the wall surface is certainly not the most serviceable method of lighting.

The method employed in the Herpich store, and even more completely in later stores at Stuttgart, Breslau, and Chemnitz, was to abandon the tra-

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ditional practice of making the front outer wall structural, or as containing the structural members, and to place this constructive framework back, so that the frontage is merely a screen, chiefly of glass. In the ground floor of the Herpich store there is consequently an unbroken shop window front, made much larger by the elimination of front stanchions. In the upper stories wide bands of glass are enclosed by moulded bronze frames, and separated by bands of cream limestone, the two top stories being set back. It will be seen from the illustration that the façade is symmetrical, and is flanked at either end by projecting features above the ground floor, projections which are square towards the centre and with curved returns at the outer extremities.

Underneath the bronze window-sills are troughs for concealed lighting, so that at night the light reflects on to the bands of limestone, and illuminates the firm's name and advertisements. There is also concealed lighting in the showcases. The advantage of this method is that by concealing the source of light the spectator from the street is not dazzled. This was the first time that a building was displayed at night by calculated effects of lighting.

When this building was completed it suffered the fate of many new and original works, and was abused and criticized. The Mayor of Berlin had endeavoured to prevent the building being erected to this design, which was, he said, 'shaming the street'.

In a letter Mendelsohn quotes a criticism which refers to the building as a 'coarse butchery of outlines and masses', and he remarks that 'the psychology which demands ornaments and flourishes has not yet quite disappeared'. Eight years later this Herpich store building was protected by the Government from deterioration, and was referred to as 'master work'. That it has now become a standard example of store architecture is obvious from numerous imitations on the Continent, and later in England. The façade, however, is by no means so impressive as those of his later stores at Stuttgart and Chemnitz. The length of the façade was not sufficient for the grand horizontal movement which made these so dramatically arresting, while the projections at the sides, designed in accordance with bye-laws, seem less satisfactory than if the arrangement were reversed as in the Chemnitz store, where the main mass projects beyond the staircase windows at the sides.

With his mind dwelling so much on the future, and on the possibilities of the new architecture and its effect on civilization, it was inevitable that Mendelsohn should turn his thoughts to America, where the actual traditions of the land were of recent history, while the older traditions

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belonged to Europe. Although having its roots in European culture, this civilization, evolving in a different environment, and partaking of a cosmopolitanism unknown in the acute nationalism of Europe, was different in many essentials. Here we see an urge to experiment, to try new things, and to organize on a grand scale. It is less an accomplished civilization than a civilization in course of becoming; and Mendelsohn, feeling this, was naturally anxious to see how America was building with the modern materials of steel and concrete, glass and laminated wood. It was also the country of Frank Lloyd Wright. He thus went to America in the autumn of 1924, and stayed several months, visiting the principal cities. During his visit to Chicago he stayed a few days with Frank Lloyd Wright.

The architecture of Wright made a profound impression on Mendelsohn, and he shares the opinion held by many important European architects and critics in seeing in Wright's work the most important American contribution to modern architecture.

Mendelsohn contributed an article to the well-known Dutch publication of 1925 on the work of Frank Lloyd Wright. The article arose out of a discussion Mendelsohn had with Fiske Kimball, director of the Philadelphia Museum, who had written in the *Wasmuth* monthly journal on 'The Triumph of the New Classicism over the Functionalism of the 'Nineties', Mendelsohn devotes his article to showing the development of Wright's work from that of his old master, Louis H. Sullivan, concentrating chiefly on the essential character of the work of each. He notes Sullivan's reaction to Impressionism and its concern with the mere appearances of the natural world, and observes his interest in the organic structure of natural forms. 'Sullivan', he says, 'had been marvelling over the organic example of Nature. He had admired its consistency, the ordination and subordination of all the "organisms", the co-operation one with another of the individual parts. He saw that there resulted the absolute legitimacy of the "organs", not merely their fortuitous appearance.' It is this study of the principles of growth and structure in natural forms as the chief inspiration of architectural design, firstly in the work of Sullivan, and then more fully and convincingly in the work of Wright, that so appealed to Mendelsohn, for he had been from the very beginning working on the same lines. This return to nature for architectural inspiration is a sort of new Renaissance, or rather a revival of the true spirit of the Renaissance as represented by Leonardo da Vinci and later by Goethe.

It is not perhaps surprising that Wright's impressive contribution to the new architecture is more appreciated outside his country, for the emotion that still chiefly determines American architectural taste is the



Plates 6 a and b. Herpich Fur Store, Berlin, 1924
 (a) Day photograph (b) Night photograph

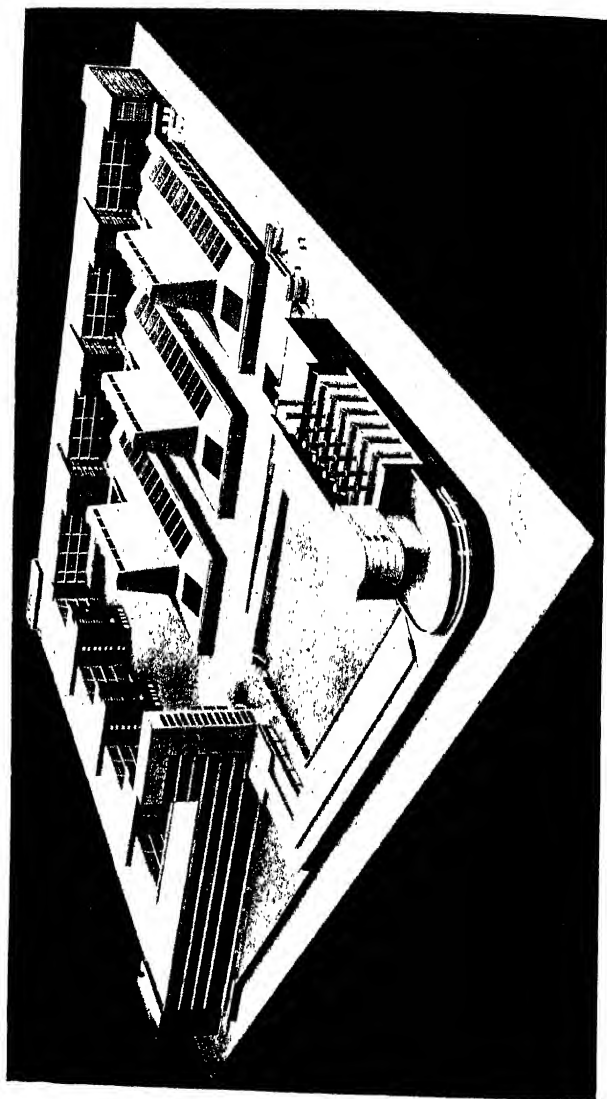


Plate 7. Textile factory, Leningrad, 1925 (model)

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emotion that prompted the grandiose classical dressings of the Chicago Exhibition of 1893—a romantic veneration for the architectural masterpieces of Europe, which, being more remote than to Europeans themselves, have, in America, an even brighter halo of romance.

Mendelsohn sums up his general impressions of the America of 1924 broadly: 'America demands nothing of our love,' he writes, 'but wants to be treated by us as unemotionally as we are treated by her. In architecture this country supplies everything: the worst of Europe's refuse, deformed offspring of civilization; but she gives also hope of a new world.'

He is exhilarated by the immense scale of many American industrial undertakings, and they usually stimulate in him speculations as to the future. Thus he writes to his wife: 'Boilers, turbines, and conveyors built in dimensions which have entirely exploded the original scale of a power-station, and have to surrender to the law that the capacity for expression of each material is limited and must in course of time be substituted by some other mechanical medium. Fantastic Piranese tubes from which suddenly emerge purely technical details like new births of the future, leaving behind "Functionalism" as a mere transitional phase.

'The power energy of the future is *en marche* because such offsprings enforce its coming.'

Shortly after his return to Germany Mendelsohn published a photographic record of his visit in a book called *Amerika: Bilderbuch eines Architekten* ('America: Picture-book of an Architect'). It comprises seventy-seven photographs of some of the most important buildings he had seen, with appropriate and highly individual notes. It is a valuable record from the standpoint of a modern architect, because the photographs are so taken as to emphasize what Mendelsohn considered significant characteristics.

In the spring of 1925 Mendelsohn was invited to prepare designs for a factory in Leningrad for the Leningrad Textile Trust. The erection of this immense factory occupied the next two years, and meant two long visits to Leningrad, the first in the spring of 1925, and the second in 1926.

The general lay-out will be seen from the photograph of the model here reproduced. It consists of three dye works 350 feet long and 150 feet high, with drying lofts reminiscent of that employed in the hat factory at Luckenwalde, only in these the drying lofts are considerably higher and their construction is clearly apparent. The factory buildings run on the outskirts of the site, forming two sides of a square with a partial return on a third side. A little removed is the power-station, with a semi-circular termination at one end. It was the aim in designing this power-station to

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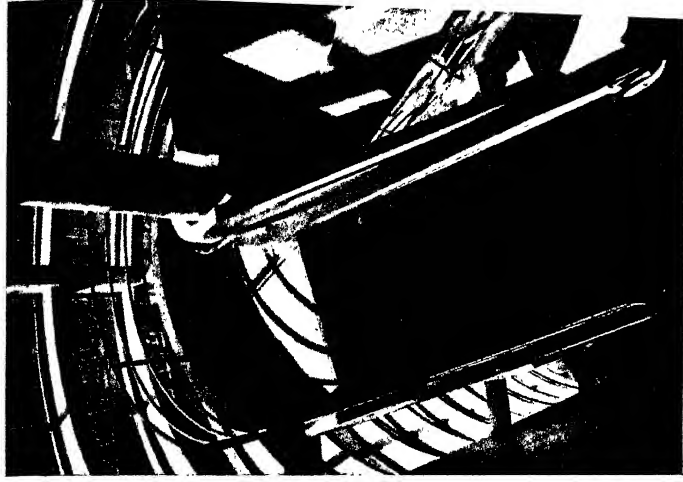
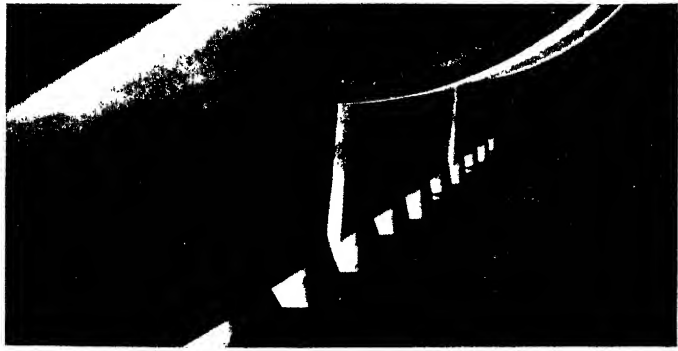
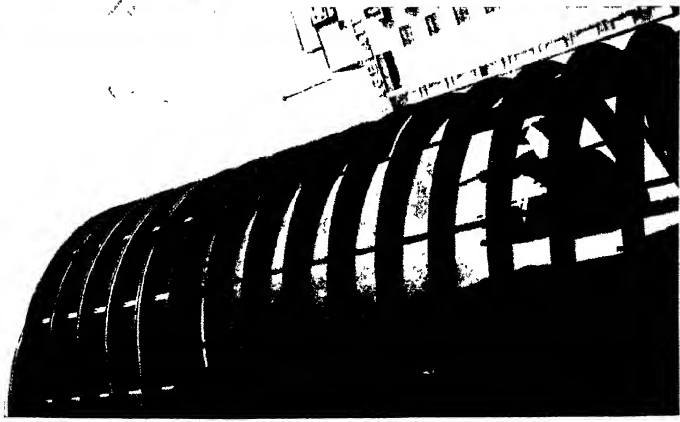
make its appearance coincide with its internal arrangement, so that the water tanks, water purification plant, boiler-house, turbine-house, coal-conveyors, and steam-condensers have all contributed to the specific forms of the building. To give some idea of the immense size of this factory it may be stated that it accommodates 8,000 workers in two shifts, and that the total length of the buildings is about a mile.

To relate the various parts of so huge a factory so that a perfect functioning organism results should also mean, if logic decided these things, to achieve architectural unity. But architectural unity rarely results from the mere use of bare logic. Mendelsohn does not work from bare logic, but with an artistic feeling for unity that comprehends logic. He first thoroughly studies the purpose of the building and then makes the general design, and the parts fall naturally into place. The architectural unity comes with the general design, often seen in preliminary sketches, which generally comprehend the character of the finished structure; and the parts fit with very little adjustment because they are intuitively comprehended in the first vision. Thus it is that the factory, while achieving architectural unity, is also distinguished for ease and efficiency of working, largely because of the satisfactory relationship of parts.

He was dismayed with the quality of the work at the commencement. 'The building is begun and—disgracefully. I try with all the influence I possess to mend matters.' And he finds himself 'fighting against the palatial formalism of the Czarist architects, who, because of a *Risalit* pendant, throw away 600 square metres of valuable ground for the sake of this very pleasant, but pestilential, use of columns. As a matter of fact', he continues, 'they should be rolled thin as a piece of tinfoil as a penalty for their non-recognition of the fact that every body—whether human or architectural—must exist three-dimensionally or not at all.'

Some years later, in 1929, as a result of his visit to America and Russia he published *Russland, Europa, Amerika: Ein Architektonischer Querschnitt* ('Russia, Europe, America: An Architectural Cross-section'), which is a series of over a hundred photographs of significant buildings of 'yesterday and to-day' with brief notes, the purpose being to record recent traditions and to show how the new architecture is being worked out in the three spheres.

Some of the notes deal broadly with the contrasting characteristics of these three civilizations and their manifestations in building and architecture. Mendelsohn seems to me to have a powerful intuitive feeling for general characteristics, and an ability to express this in a few vivid and telling phrases. The following extracts on the essential contrasts of Ameri-



Plates 8 a, b, and c. Schocken Department Store, Stuttgart, 1926. Staircase tower

(a) Exterior, (b) Construction, (c) Interior

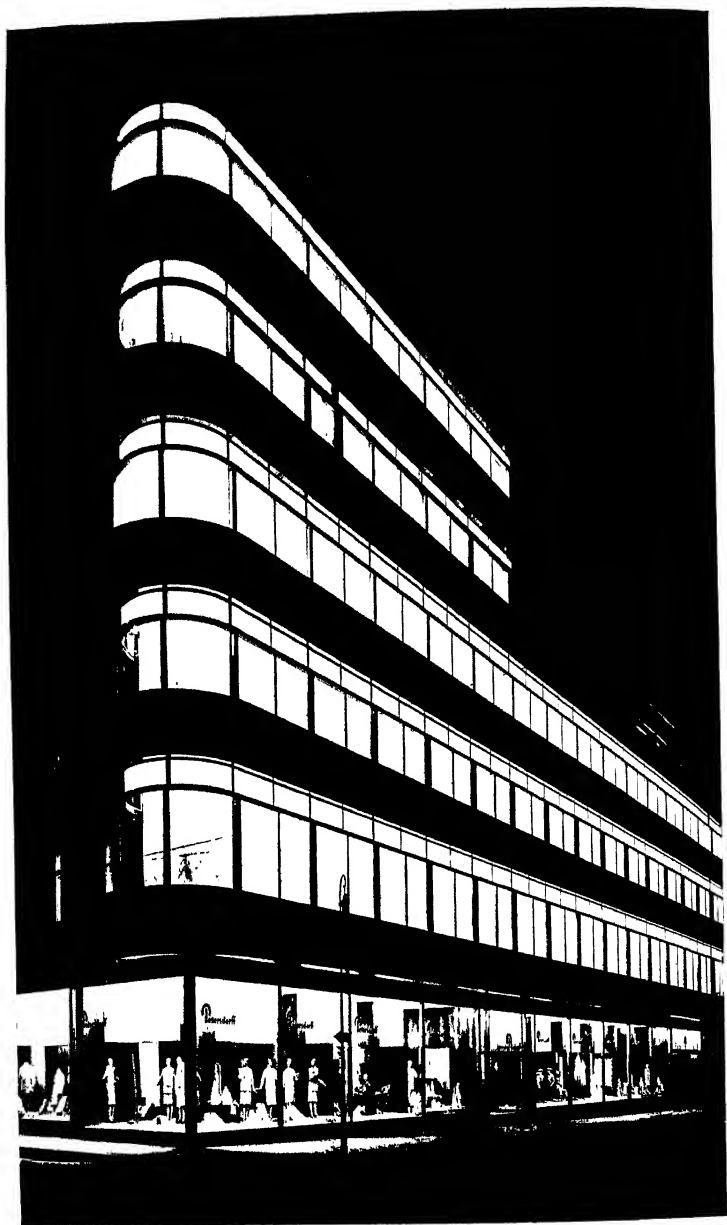
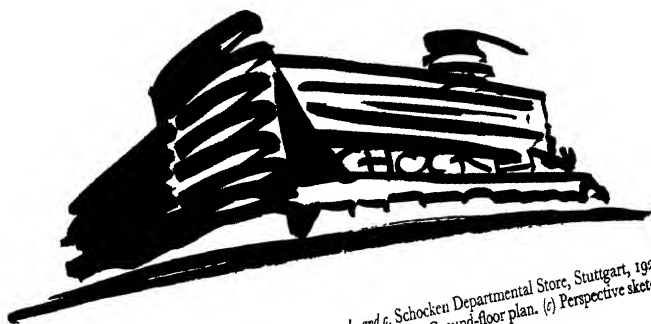
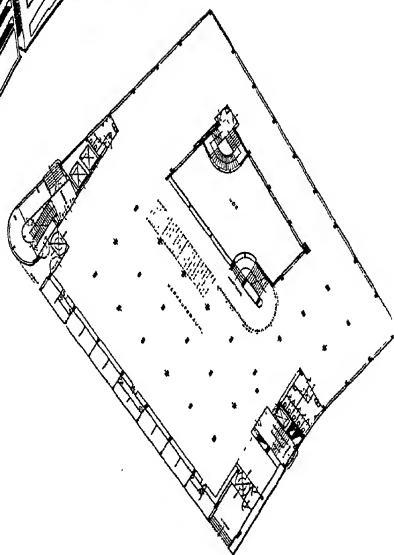
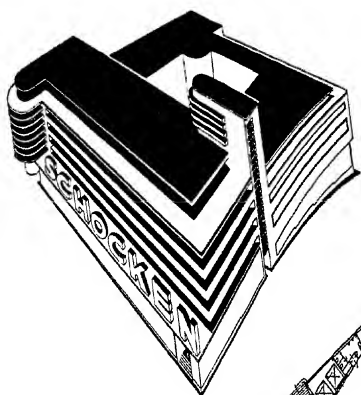
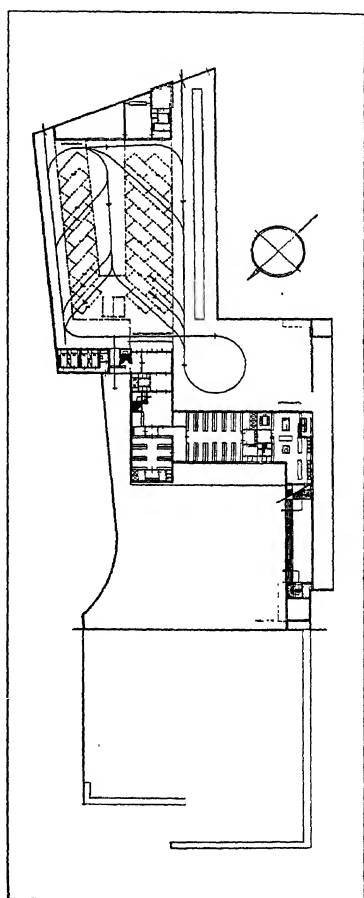
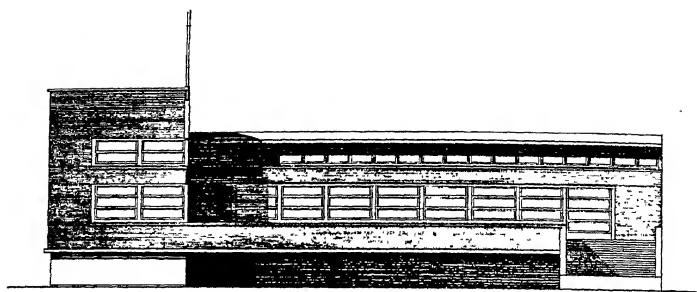


Plate 9. Petersdorff Departmental Store, Breslau, 1927; corner view by night



Figures 77 a, b, and c. Schocken Departmental Store, Stuttgart, 1926
 (a) Aerial view. (b) Ground-floor plan. (c) Perspective sketch



Figures 78 a and b. Motor-yacht
 Club, Wannsee, 1927 (project)
 (a) Elevation
 (b) Ground-floor plan

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can and Russian civilization are very illuminating in this way. 'The history of America', he writes, 'is the history of the greatest economic development, the history of the growth of the new world on the basis of technique and intellect.

'Russia's history is the history of the fabulous leap of the greatest agricultural power from absolutism to State Socialism, the beginning of the evolution of a new world on the basis of technique and intellectual ideals.

'For Russia and America alike, technique is the common ground. Certainly America says: I am the world; I myself am life. But Russia says: I still have to make the world; my life belongs to all men.

'Both, however, have an understanding of our time—driven by Fate; both are agreed that the forms of expression of mankind which hitherto existed have fundamentally changed.

'But feverishness and over-emphasis in any transitional period leads easily into the danger of romanticism. Consequently Russia, still technically primitive, seeks its salvation in an excess of intellectual effort which is strange to it. The technically highly-developed America, on the contrary, seeks its salvation in an excess of idealism which is strange to it.

'Between these two nations, America and Russia, between these two poles of man's endeavour, Europe will be able to mediate if it brings itself back to consciousness by welding its disintegrated members into a solid unit. For it is the intellect that controls our emotions, but it is the spirit that makes the eternal foundations of life.

'Therefore the technique ends with man himself. For if technique becomes a purpose in itself, then the mechanical theory leads to the over-estimation of technical devices, and indeed makes a god of technique!

'There should be no falsification of the human spirit through mechanization. On the contrary, the systematized enlistment of the powers of nature in the service of man creates a basis for politics and economics. Only on an economic basis can society and culture develop; man should not be the automatic appendage of the machine, but its creator, its master.

'Russia's power of sacrifice and emotion, and the intuitive religious nature of its character united with America's shrewdness and unproblematical energy, and all this set upon the high level of America's technical proficiency, combine in magnificent potentialities for the new world, whose problem in fact equals the finiteness of mechanics plus the infiniteness of life.'

The Schocken store at Stuttgart, begun in 1926, is one of Mendelsohn's best known buildings. This store occupies a sloping island site, so that in

THE BUSY ARCHITECT

designing the building it was necessary to make allowance for different levels. The block is formed round a light well, and the two focal points in the design are the two main staircases, one at the end of the principal façade, facing south in Eberhardstrasse, and the other in the centre of the eastern façade. The principal façade has five stories, the ground floor projecting beyond the upper stories and beyond the constructional members to allow an unbroken glass screen. The shop windows are in satisfactory relation to the exhibited goods, and are carried very low in order to bring full daylight into the ground floor. The name 'Schocken' appears above the ground floor in large massive letters and forms a distinctive decorative part in the design. In the upper stories the windows run the whole length of the façade and round the corner, broken at intervals by uprights, but not sufficiently to disturb the horizontal movement. Between the windows are alternating bands of brick and golden travertine. This horizontal movement is terminated on the east façade by the staircase turret, which presents a flat tower to the street, but is curved on the other side above the block. On the principal façade the long movement is terminated at the end by a cantilevered glass tower enclosing the staircase. The glass is framed with steel rings, and the glass and frames are carried a little distance along the west side.

The principal façade, with its movement towards the cantilevered glass tower, is one of the most impressive in modern architecture, and has been the prototype of numerous buildings in almost every European country, but rarely do the imitations obtain the excellent proportion and movement of this building. Here Mendelsohn has carried the exhilarating horizontal movement of five stories to just the right length, and then arrested the movement with an outward curve that revolves and stops. It is like the steady yet grand procession of a musical passage suddenly arrested by a vibrating chord, the procession having taken just the right length of time. Howard Robertson no doubt had this building in mind among others when he wrote: "These terms ["inflection" and "punctuation"], in their literal meaning, are practically self-explanatory; and to illustrate them we may refer to many of Eric Mendelsohn's designs, in which he employs a favourite—and very effective—device of terminating a great sweep of horizontal façade by a sudden convolution at one end, which brings it to a vibrating stop without the aid of the cruder device of butting it against another element, such as a vertical pier or pylon. This treatment embodies both inflection and punctuation, the former a preliminary to the latter. In his interiors, Mendelsohn's effects are equally powerful. He succeeds in drawing out his horizontal lines to their fullest

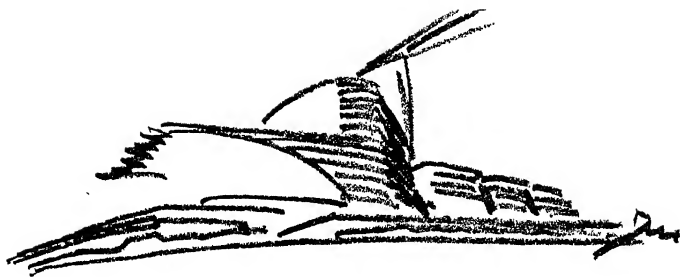
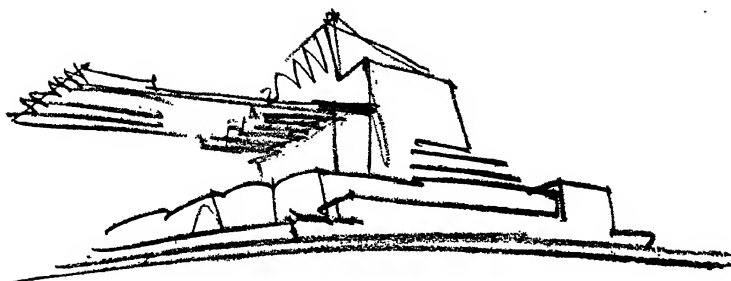
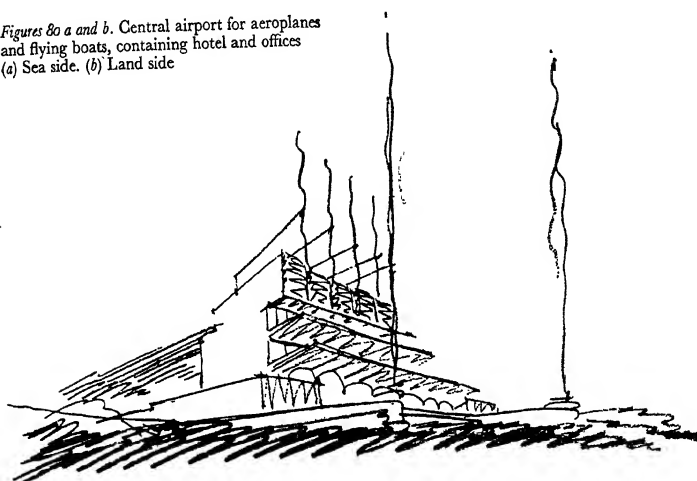


Figure 79. Export warehouse with own airport

Figures 80 a and b. Central airport for aeroplanes and flying boats, containing hotel and offices
(a) Sea side. (b) Land side



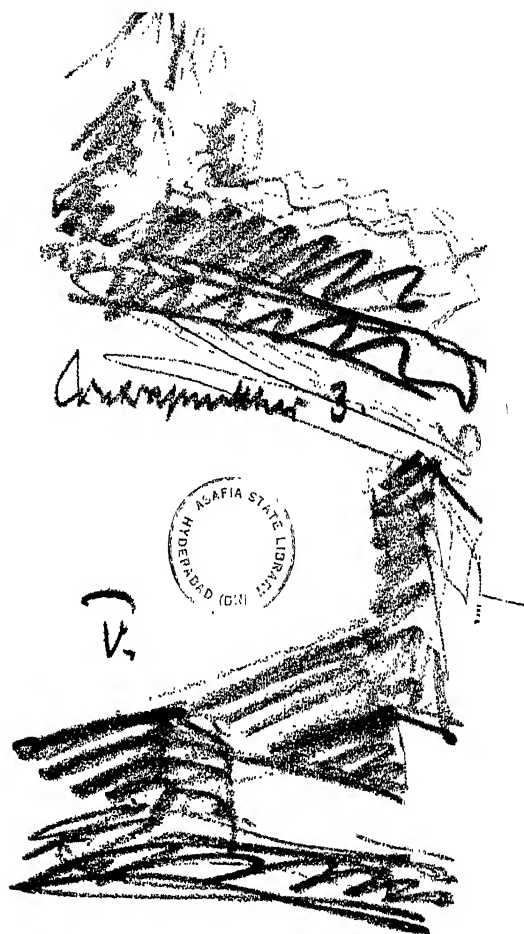


Figure 8r. Page from sketchbook, 1927

Series XI

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extent, almost at times to the breaking point, and then, while the eye of the spectator is in full pursuit of these vigorous flowing lines, Mendelsohn arrests them, makes them as it were recoil upon themselves, and always at just the right point. Mendelsohn knows how to play upon form as a violinist plays upon a string. He can produce vibrations from a single line.¹ I have quoted this passage in full because it is one of the most eloquent appreciations of Mendelsohn's work by an Englishman, and it gives, I think, an idea of the particular pleasure received from Mendelsohn's work.

This Schocken store at Stuttgart occupied Mendelsohn from 1926 to 1928. During this time, that is, in 1927, he was also engaged on the large Petersdorff departmental store at Breslau. As will be seen from the illustrations, this has certain similarities to, but also decided differences from, the Stuttgart store. There is a long horizontal movement, even more dramatically uncompromising than in the Stuttgart store because there are no verticals of any bulk in the windows, and because the metal cornices give such powerful emphasis. The movement on the principal façade continues unbroken and returns upon the end wall, the cantilevered tower effect thus appearing on the side façade. The bands between the windows are faced with golden travertine, and the lovely effect with the bronze cornices and window frames can be imagined. The building is constructed on the cantilevered principle, that is, with the constructional members set eleven feet back, otherwise the large expanse of glass on the ground floor and the continuous bands of glass unbroken by any intervening supports on the upper floors, would not have been possible. It is really a screen, largely glass, thrust forward.

Contemporary with these stores was an undertaking of a totally different kind, namely a cemetery at Königsberg.² The site was a long rectangle, and, with the exception of the office on the right of the entrance, the lay-out was symmetrical. On each side of the central pathway were four spaces enclosed by hedges for graves and memorials, the hedges doubtless being so placed as to provide a fitting background for the memorials. Beyond these, and after ascending a small flight of steps, was the chapel, a long low building with a raised part at the back above the hall. The path continues as a passage between flanking blocks which comprised the mortuary. The long, low character of the building was strongly emphasized by the window-band between the projecting concrete roof and sill and by the long strips of stone worked in the brick facing. Two vertical notes supplied

¹ *Modern Architectural Design* (London, 1932), p. 179.

² Blown up, November 1938, by the Nazis.

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a variation: the central rectangular masses at either end of the hall, one being mainly a window between two brick piers.

During these busy years his restless mind was still actively engaged on various projects and experiments. Among the projects may be mentioned the design for the German Motor-yacht Club at Wannsee (Berlin), which consists of a principal hotel block and subordinate block forming the director's house, with garages, walls, and formal gardens. The whole scheme forms pleasing relations of rectangular masses strictly controlled by a prevailing horizontality, which makes it essentially suitable as a lakeside building.

The sketch designs shown in Series X represent a selection from many that he made during these years. They are largely experiments in problems of construction. The sketch designs for an aerodrome (Figure 80) and for an export warehouse (Figure 79) are interesting chiefly for the experimentation with cantilevering. The further sketch designs (Series XI) made while listening to Bach's music provide further examples of what has been said in the previous chapter on the relation of the architectural forms in Mendelsohn's sketches to musical forms. They are an eloquent testimony that it is Bach's music above all that inspires him with so many architectural ideas, and which gives him blissful release from the busy world of his office.



Plates 10 a and b. Petersdorff Departmental Store, Breslau

(a) Cantilevered floor

(b) The Sales floor



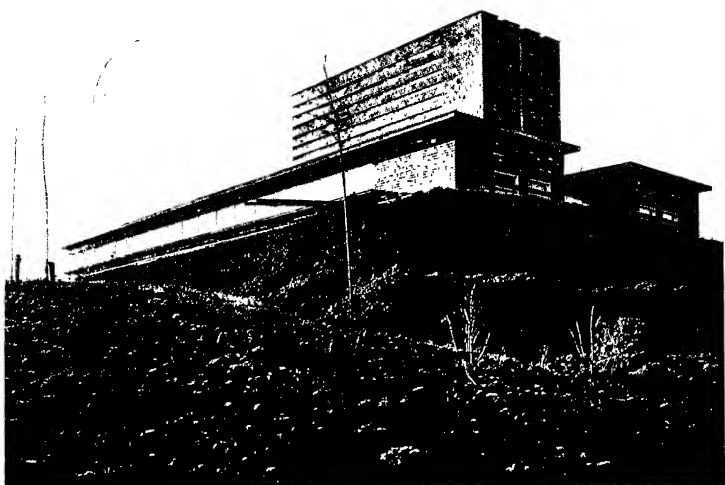
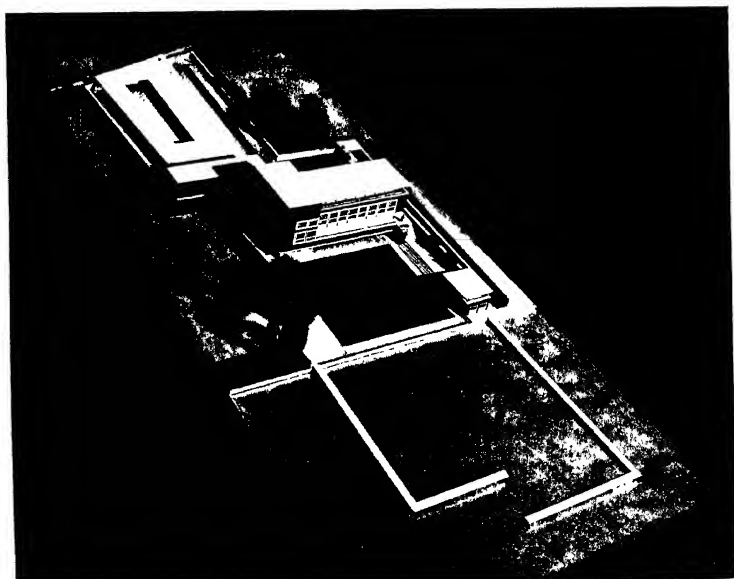


Plate 11. Jews' Cemetery, Königsberg, 1927

Plate 12. Motor-yacht Club, Wannsee, 1927 (project)



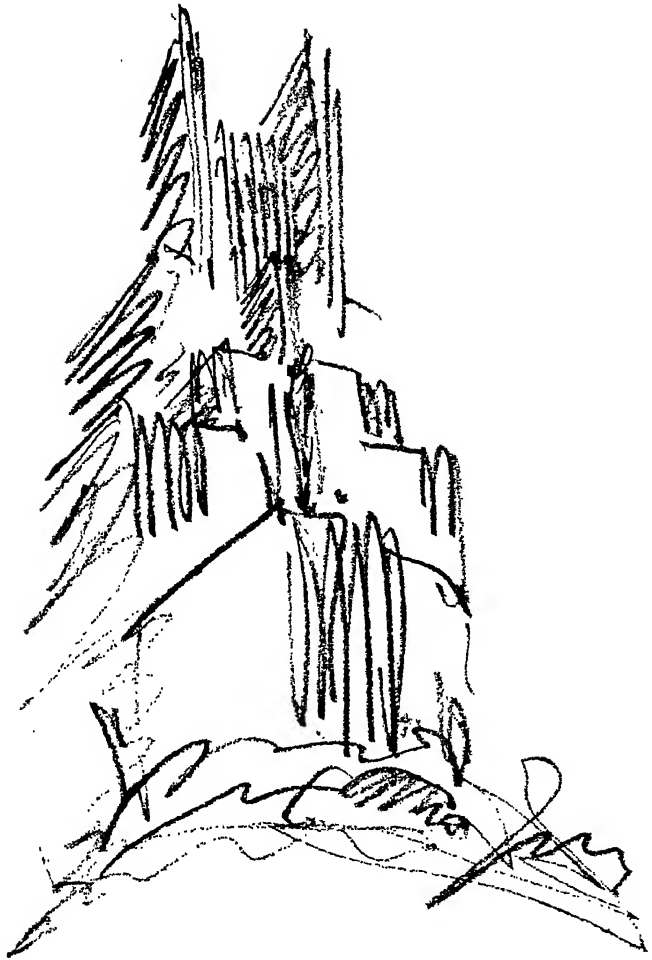


Figure 82. Dedication, 1927

5. THE PERIOD OF ACHIEVEMENT

Germany 1928-1932

The last five years that Mendelsohn was to spend in Germany represent a period of intense activity not often equalled in the lives of architects. The amount of work he accomplished was amazing. To give some idea of its magnitude it may be mentioned that as many as forty assistants and draughtsmen were occasionally working for him. In this short period he became the author of some of the outstanding monuments of modern architecture. He had at last won the recognition to which his genius was entitled, and it is not surprising that during these years he acquired an international reputation, and was often the subject of panegyrics from enthusiasts of the new architecture. His influence at this time was extensive and it is from the year 1928 that we find numerous imitations of his work.

During 1928 he was engaged on a large undertaking for the Woga Company. This was a group of buildings adjoining the Kurfürstendamm in Berlin. The first scheme consisted of a street of shops running off the Kurfürstendamm, with a cinema at one corner and a café-restaurant and cabaret theatre at the opposite corner; and, at the end of the street forming a cul-de-sac, a revue theatre. Judging from the model, the scheme included interesting relationships of long horizontals and semi-circles (on plan), an example of a sustained horizontal movement arrested at certain points by convolutions.

This scheme was considerably amended. The cinema, café-restaurant and cabaret theatre were retained as in the first scheme, but the street of shops was shortened to about one third, and at the end was a bachelor hotel. Behind the cinema and running parallel with the original street was a large block of flats. In accordance with official requirements, the corner buildings, on the Kurfürstendamm, were only two stories in height, and as a financial compensation for this the bachelor hotel and flats were six-story buildings. The buildings throughout were of steel-framed construction with brick and stone facings. In the block of flats the

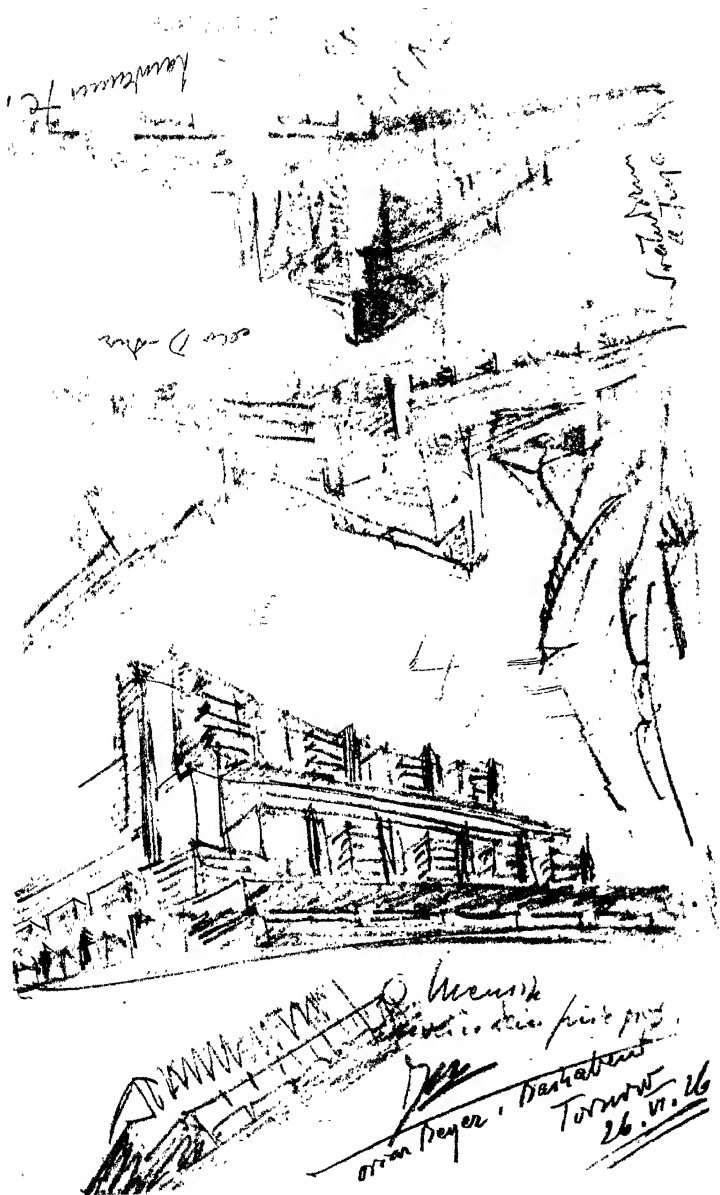


Plate 13. Page from sketchbook, 1926

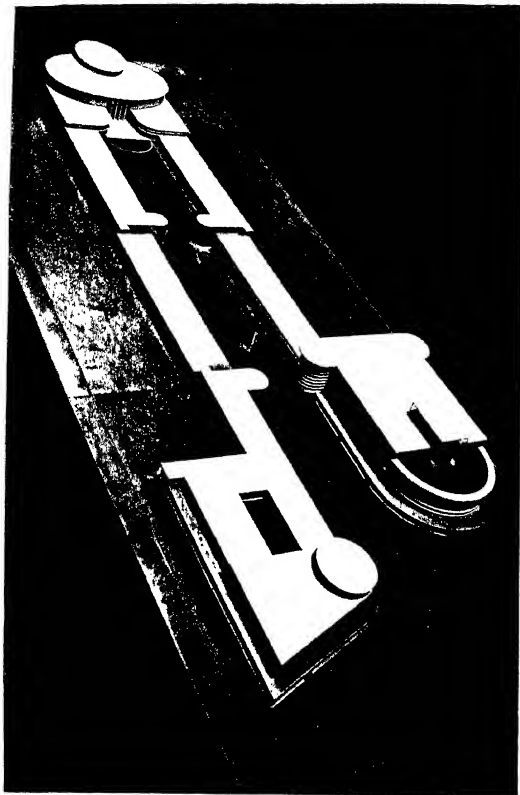


Plate 14. Woga Buildings,
Berlin, 1928 (model)

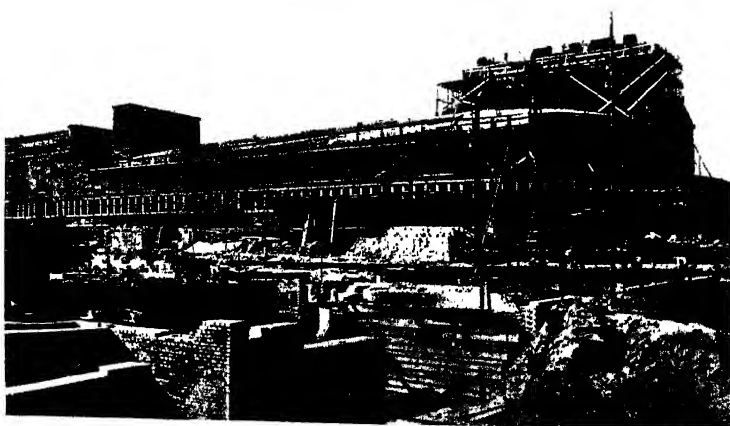


Plate 15. Universum Cinema,
1928; in construction

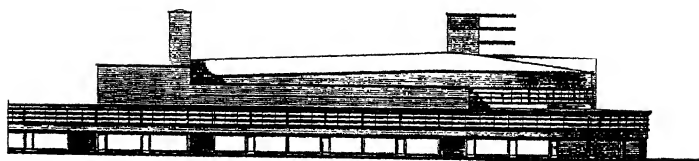
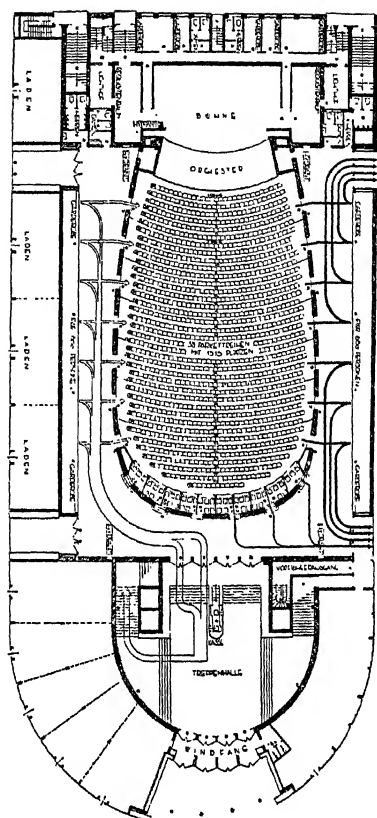
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distinctive character of the façade is derived from the horizontal bands of brick—darker than the rendering which faces the remainder—which at intervals swing out in segments. The movement is terminated at one end by a complete semicircle, which returns on the end wall.

The corner with the café-restaurant and cabaret theatre swings round with an unimpeded horizontal movement at an obtuse angle of about 100 degrees. The cabaret theatre, designed to accommodate 830 people, is planned in the form of a complete circle with balcony conforming to this general shape. The contours of the exterior express this interior formation. But it is the Universum cinema on the opposite corner that is the most famous building of the group. Here the corner is taken in one grand circular sweep, to continue in a complete semicircle. The windows of the first floor continue in one unbroken movement from a considerable length of straight, and curve round to the entrance of the cinema situated at the centre of the semicircle. The recessed mass above it swings round similarly, and is arrested by the rectangular ventilation and advertisement tower above the entrance. The illustration, showing the building in course of erection, gives a very good idea of the long horizontal sweep of the first floor windows.

The Universum cinema¹ accommodates 1,800 people. The plan is rather like an elongated horseshoe, being long and narrow. It follows the principle of a camera void, into which rays of light pass through the lens. What the lens is to the camera, so is the screen to the auditorium. This is different from the case of a theatre, where the stage does not represent reflection, but is its own source of light. This shape is conducive to a satisfactory arrangement of the seating, both in the auditorium and the balcony. There are no sharp angle views where the picture is distorted, as in many London cinemas. There is a stage of some depth, which allows the screen to be set well back from the front seats. This is really the first example of the true cinema building, and is one important reason for the circumstance that German cinema design up to 1933 was easily superior to that elsewhere. German architects solved the special problems of cinema design as distinct from theatre design more successfully than, say, English and American designers. The cinema is governed by many different conditions from the theatre. The best seats in a theatre are towards the front, whereas in a cinema they are towards the back, while the front seats offer a special problem if they are not to be wasted. In this the many experiments of German architects to create an illusion of depth from the front proscenium to the screen are often ingenious. The series of

¹ Now called Luxor Palast.



Figures 83a & b. Universum Cinema, Berlin, 1928. (a) Ground-floor plan. (b) Elevation

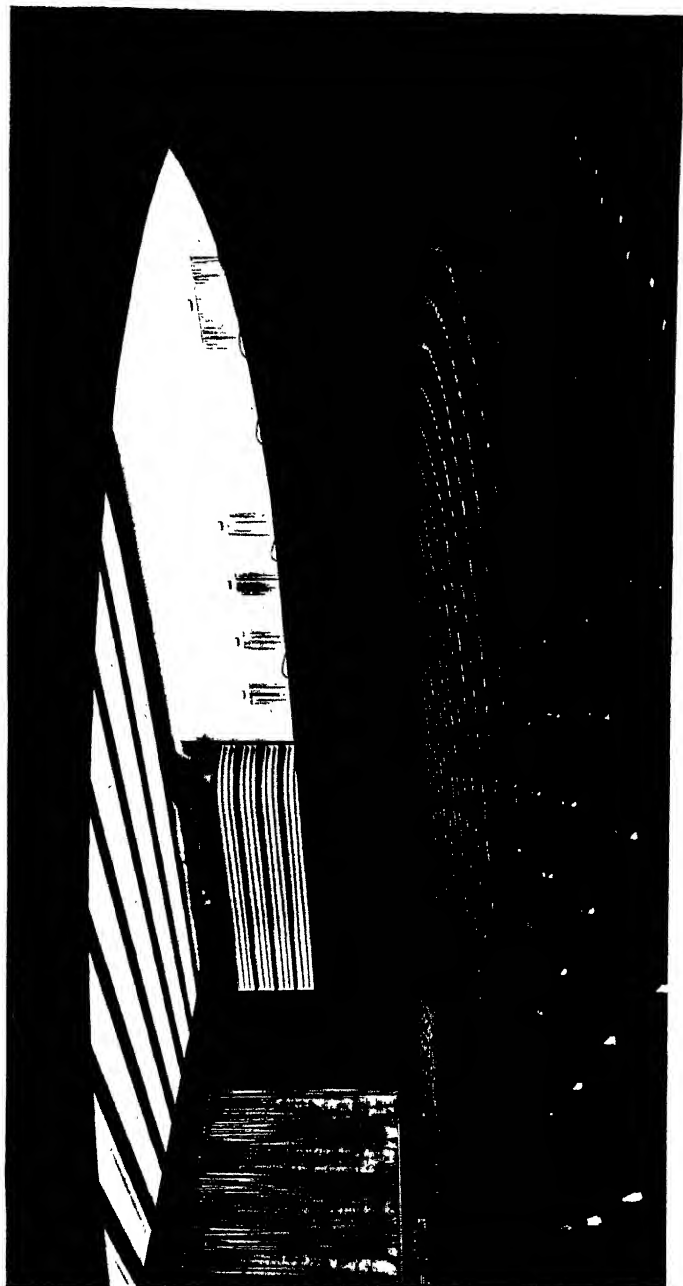
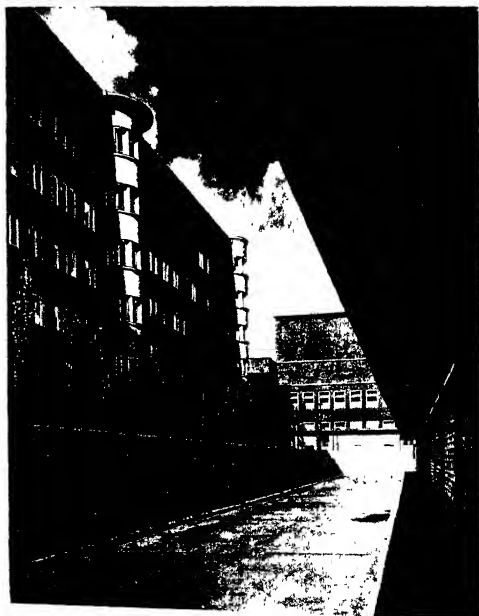


Plate 16. Universum Cinema, Berlin, 1928

*Plates 17 a and b. Block of flats,
Berlin, 1928. (a) Street view*



*(b) View showing rear of flats,
with rear of Universum Cinema
in background and garages of*

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receding frames and lines directing the eyes inwards are two methods. Evidence of how much better all this was done in Germany than elsewhere is afforded by P. Morton Shand's entertaining and amusing book, *Modern Theatres and Cinemas* (1931). It is significant that of the cinemas and theatres illustrated twenty are in Berlin, six are in Paris, and four are in London. This preponderance of German examples does not, I think, emanate from German bias, but from the convictions of one keenly sensible of the best in modern architecture. Morton Shand says in explanation that 'if the illustrations in this volume are predominantly German, the reason is that the general level of German cinemas is the highest in the world; and that German architects have thought out the cinema as a new and untraditional type of building instead of tinkering with adaptations of the traditional form of the theatre, or aping the barbarous and suffocating magnificence of London, New York, and Chicago "Palaces" ' (page 24).

Needless to say, the Universum cinema is among the twenty Berlin examples, and although I have actually visited only some of them it seems to me that it is as beautiful as any—at least it has given me more aesthetic pleasure than any other cinema that I know. I always feel that a theatre or cinema demands one essential type of dramatic emphasis in its interior design: that is, all lines and masses should converge towards the stage or screen to conform to the direction in which the whole audience is looking. Vertical forms, like columns, are contrary to purpose, whereas horizontal lines or masses moving towards the stage are definitely expressive of purpose. This principle is completely and satisfyingly expressed in the interior of the Universum cinema. The grand curve of the balcony front continues almost to the stage—'scimitar-like sweep', as Morton Shand expressively calls it—and above, where the band leaves the balcony, are horizontal strips giving the same emphasis, while decorative strips on the roof move in the same direction. The sweep of the balcony is echoed by the upper floor of the foyer entrance, and these curved masses seem to accord singularly well with the curved façade that encloses them. Mendelsohn gives an interesting note on the colour of the interior in a letter: 'I have just come from the first lighting rehearsal at the cinema. The ceiling-light is splendid, and I think we shall get the red mahogany, with pastel shades of blue and yellow for the wall behind the circle, thus having the austere and tender together. Everything there is making a great impression in spite of the sparsity of materials and the simple colouring.'

I quoted Sheldon Cheney's remarks about Mendelsohn's sketch

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designs, that they have the 'feel of the machine', and that certainly is the impression conveyed by the Rudolf Mosse Pavilion that Mendelsohn designed for the Cologne Exhibition of 1928. It is, I feel, a machine of some delicacy and precision, and perhaps here the word 'instrument' expresses it a little better. It has all the lightness of which a steel and glass building is capable. Advertising Rudolf Mosse, the international publisher, the purpose in this pavilion was to express the idea of the transmission of international news, and of transmitting such news with the utmost speed. There is something symbolical, therefore, in the four cone-shaped cabins enclosed in the long glass cage, the shapes suggesting that news is spread to the world from centres. The principal end has a semicircular termination with an upper story which contains radio and telegraphic apparatus, and a telegram table of the nations. Masts support a wireless aerial, the principal one rising from the double story block bearing the name in large letters.

To this so fruitful year, 1928, belongs, what many consider, and among them the architect himself, Mendelsohn's *chef d'œuvre*: the Schocken store at Chemnitz. Mendelsohn was here fortunate in his site, and he made full and impressive use of his opportunity. The Brückenstrasse bends at a point where two minor streets join it, and it is in the concavity of the bend that the site is situated. Its shape is the sector of a circle, with the circumference forming the frontage. This frontage is about 220 feet, curving to a radius of about 150 feet, and it is this curved frontage that provided Mendelsohn's opportunity.

The store is again constructed on the cantilevered system, that is, the constructional members are set sufficiently well back not to interrupt the line of the counters and also to provide the maximum of daylight. Thus the front is a screen with long horizontal window-bands, the floors being cantilevered. It is a nine-story building with the three upper stories recessed in sequence and forming terraces. The flat roof projects several feet, and serves the aesthetic purpose of emphasizing the line of the building. The staircases are at either end, and these are expressed in the façade by large single vertical windows. The window-frames and doors are of oak, while the bands between the windows are faced with golden travertine. In the daytime this golden travertine shows as pale bands against the varying yet generally darker tones of the windows, but at night, when the building is lighted, this is reversed, and bands of bright yellow appear on a dark ground.

What must impress the observer who reasons logically, and independently of traditional forms, and who can thus think of the building on its

Plates 18 a and b.
 Mosse Pavilion, Press
 Exhibition, Cologne, 1928



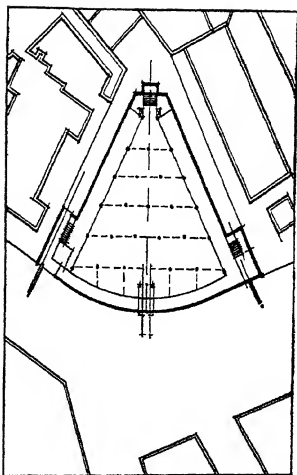
(a) Exterior (b) Interior



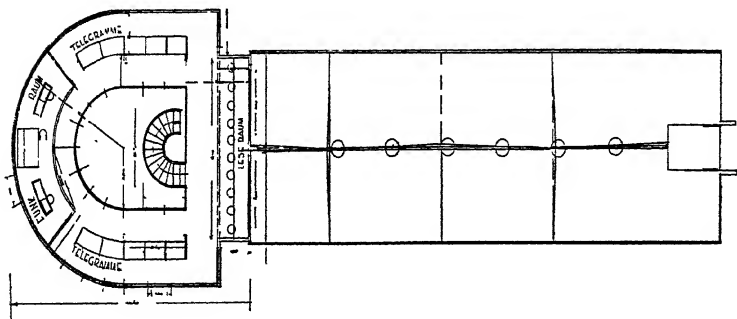
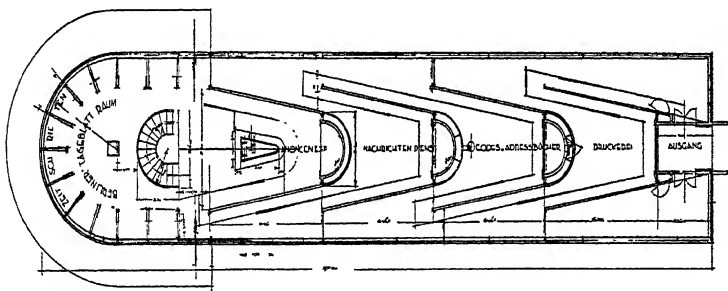


Plate 19. Schocken Departmental Store, Chemnitz, 1928 (day photograph)

Figure 84. Schocken Departmental Store, Chemnitz, 1928 (layout)



Figures 85 a and b. Mosse Pavilion, Press Exhibition, Cologne, 1928. (a) Ground-floor plan. (b) Upper floor



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own merits, is the simple and logical way it suits its purpose. One is impressed by its inevitable rightness: it is the perfect store building. This fitness for purpose contributes, of course, to the aesthetic pleasure it affords, but it is not by any means the sole or even chief reason for its beauty. The width of window and travertine bands, the relations of the recessed upper stories, the degree of horizontal emphasis, and the degree of emphasis given to the contours of the main mass by projecting it beyond the ground floor and beyond the staircase windows, are all the results of the keenest artistic sensibility. As Professor C. H. Reilly has said: 'Its balanced form is almost classical in its dignity and simplicity.' In its structural lightness and as an expression of concrete and glass it achieves a new beauty, inevitably rare and strange; but I have little doubt that it will ultimately rank high among the architectural masterpieces of the twentieth century. Among store buildings it would be difficult to find another that shares its superlative excellence.

It was during this year (1928) also that he was engaged on the town-planning scheme for the development of the area in Berlin enclosed by Lindenstrasse, Belle-Alliance-Platz, Gitschinerstrasse, and Alte Jakobstrasse. The scheme was to provide a new street running from the corner of Gitschinerstrasse and Alte Jakobstrasse to Lindenstrasse, but though it was started it has not yet reached Lindenstrasse, and remains a cul-de-sac. The triangular site made by the juncture of the new street and Alte Jakobstrasse is occupied by the building of the German Metal-Workers' Union,¹ the only part of the scheme finished by Mendelsohn.

The project is an exceedingly interesting one, as showing remarkable relations between curved and straight masses. A curved block was to occupy the corner of the new street and Gitschinerstrasse. The building of the Metal Workers' Union on the opposite corner was to be connected with this by a block of six stories forming a bridge over the new street. This block is straight over the roadway, but curves in forming the angle with the façade of the Metal Workers' Union building.

The complete scheme suffered procrastination in the shadows of the coming economic depression. The building as erected follows mainly the lines of the original scheme. It was to be not only the offices of the union, but the offices and printing-works of its official organ. In the triangular site the principle of the sector was followed with curved forms between the radii boundaries, only in the original scheme at the corner the two lowest stories project and form a convex front, with the upper stories set back with a slightly concave front. In the building as erected this convex

¹ Now a building of the German Labour Front.

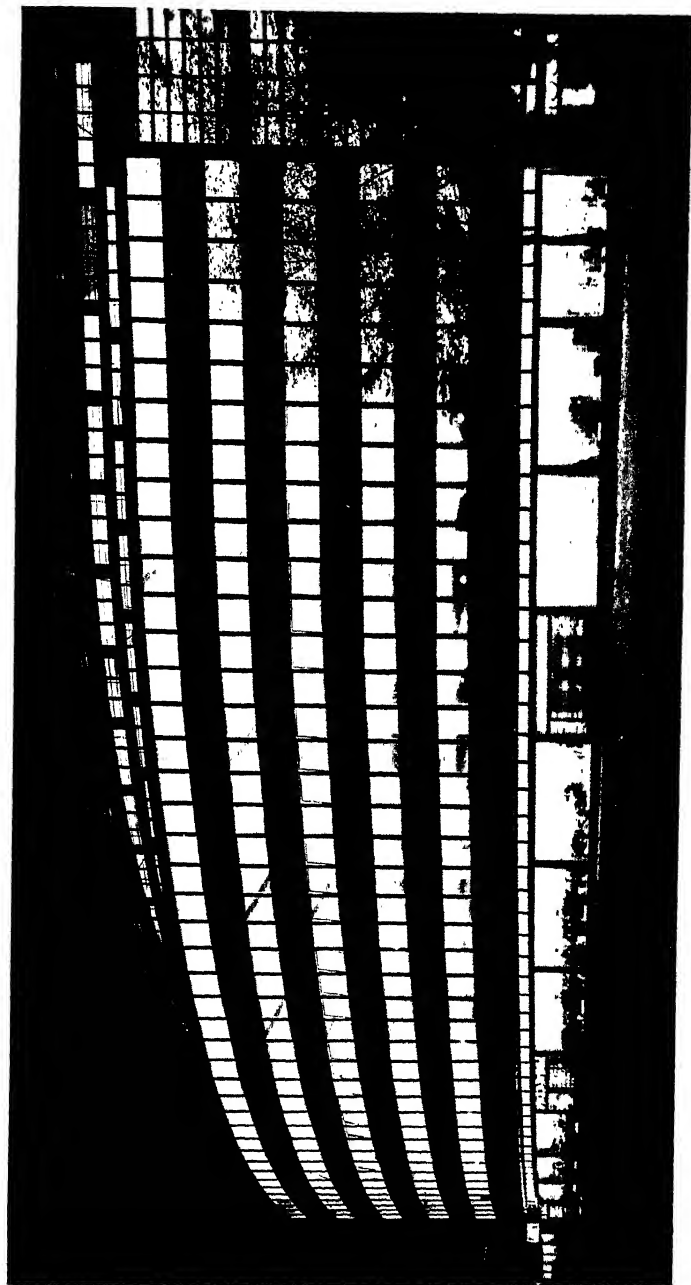


Plate 20. Schocken Departmental Store, Chemnitz, 1928 (night photograph)

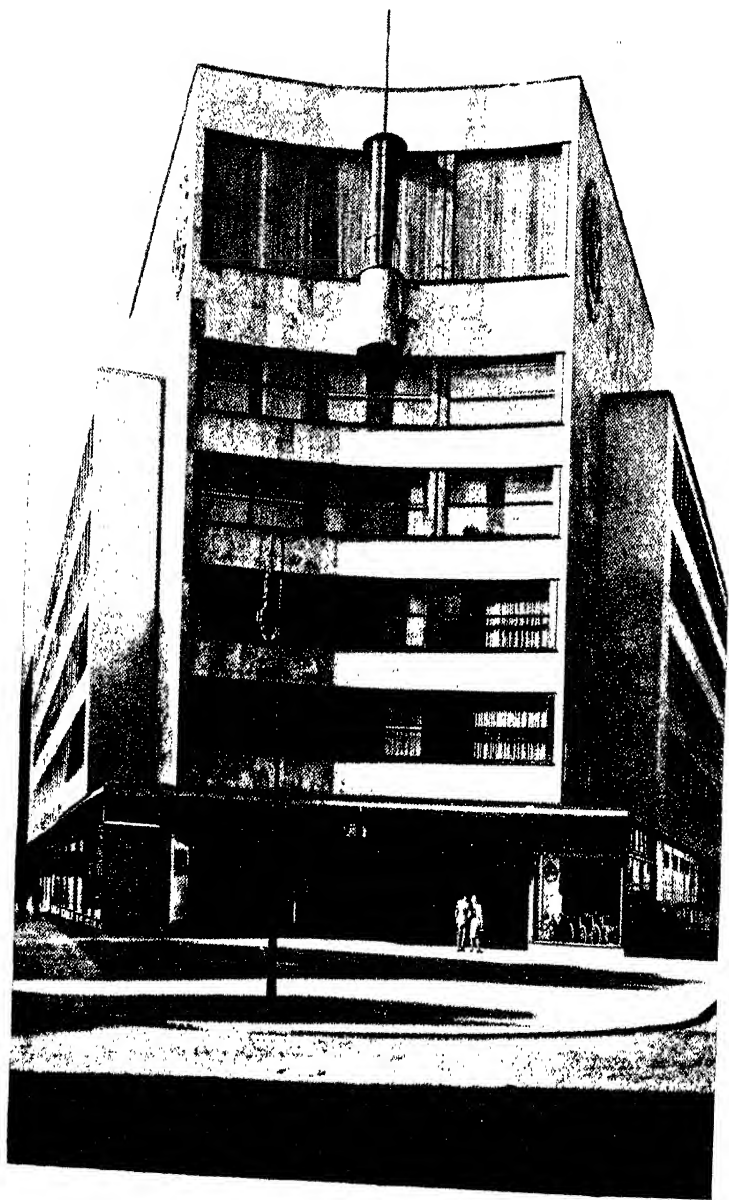


Plate 21. Administration building, Metal Workers' Union, Berlin, 1929; front view

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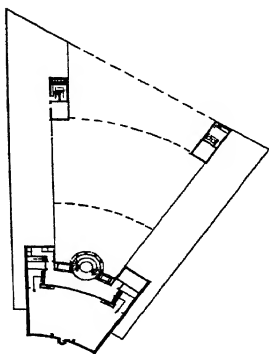
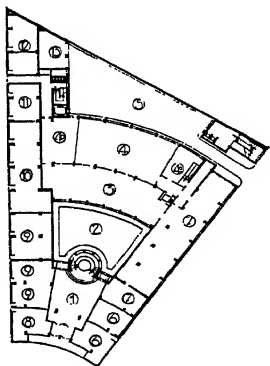
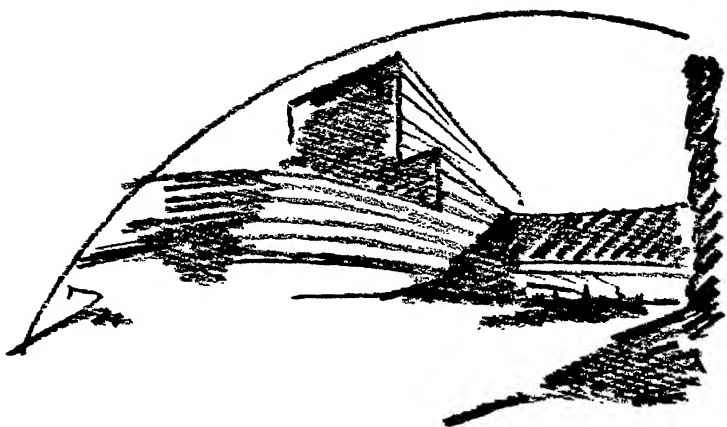
front is removed, although the pavement follows this shape, and thus makes a considerable area in front of the building. The original scheme and the actual building may thus be compared. Another change is from a large glass façade with vertical emphasis to horizontal emphasis. I must confess I prefer the design of the original scheme. I feel the vertical emphasis makes a pleasing contrast to the long horizontal window-bands of the sides, and provides a more dramatic arrestment to the movement. But in each case the long side wings seem to clasp this central mass like pincers, giving a feeling of tension that is constructionally satisfying.

The geometric sector as forming the basis of the plan is very clearly seen. On entering, one passes through a central hall, the lines of offices stretching out like wings on either side. At the opposite end of the hall is the famous circular staircase with its lighting fitting occupying the whole height of the staircase well. Beyond this is an ornamental court, and then a curved two-story block which contains the printing-works. At the back is a space for goods traffic. The wings and angle façade are five-story blocks.

The building is constructed of reinforced concrete framework, the supports being at intervals of twenty feet. The facing is cream rendering and the window frames of bronze. The views of the building from the courtyard, as can be seen from the illustration, give a very strong impression of constructional lightness. The long horizontal glazed bands, again unbroken by any heavy constructional member, assist this impression.

To the year 1929 belong two important competitions in which Mendelsohn took part. One was for the administrative buildings of the German Nitrogen Syndicate, Wilmersdorf, Berlin. The requirements were considerable. The scheme was to consist of a lay-out of offices for 1,200 officials, of experimental gardens with hot-houses according to Dutch pattern, silo for manure, garages, gardeners' dwellings, and café-pavilion. It would occupy too much space to describe Mendelsohn's design adequately, but the reader may get an idea of it from the photograph of the model. The clear, sharp juxtaposition of rectangular masses, not only in the blocks, but in the lay-out of the garden, gives an exhilarating feeling of potential efficiency.

The other, a competition that attracted world interest, was that held by the Government of Soviet Russia for the Palace of the Soviet at Moscow. According to the requirements communicated to competitors it was the intention of the Soviet Government to make this building a great social and political centre, and a symbol of the ideals of the U.S.S.R. The main requirements were two large assembly halls. One was to seat 15,000 per-



Figures 86 a, b, and c. Administration building, Metal Workers' Union, Berlin, 1929. (a) Sketch for town-planning scheme. (b) Ground floor. (c) Top floor, showing board room.



Plate 22. Administration building, Metal Workers' Union, Berlin, 1929; courtyard



Plate 23. Administration building, Metal Workers' Union, Berlin, 1929; main staircase well

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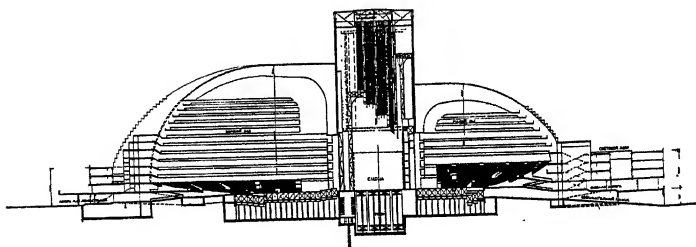
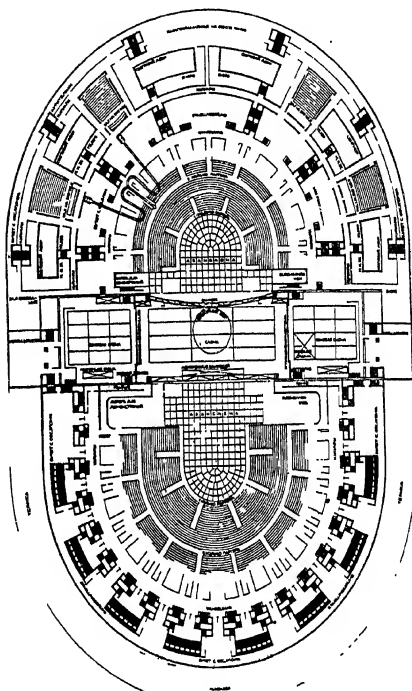
sons, and it was to have a stage arena for demonstrations of importance in the life of the country. The other hall was to seat 6,000 persons and was to be devoted to congresses and conferences. The design for this smaller hall was also to provide a gallery for 2,000 spectators. In addition to these two principal features the building was to include two small halls each to hold 500 persons, a library, exhibition rooms, and administrative offices. The competition was held throughout the world, and Soviet architects were given the utmost encouragement to submit designs. To be sure, however, of obtaining the best projects the world had to offer, nine eminent foreign architects were commissioned to submit designs, among them being Le Corbusier, Perret, Poelzig, Gropius, and Mendelsohn. The jury received four hundred and fifty projects in all, and I do not think there was one English design among them.

Most of the four hundred and fifty may be dismissed as crude, grandiose projects, very like the design to which the building is actually being erected. Some of the best designs were reproduced in the Russian number of the *Architectural Review* for May 1932. Every architect visualized the project as consisting of two main features—the two halls, and all else subordinate to these. Most, like Le Corbusier, Perret, Poelzig, Iofan and Urbans, to mention the most noteworthy, made two separate buildings of the halls, devoting the space between to outside ceremonial and processions. A few, and among them Gropius and Mendelsohn, incorporated them in one building. It is interesting to note that these two designs are more like each other than they are like any other of the projects. In both, the halls together form one circular building, and in both, the stage of each hall is towards the centre. In Mendelsohn's design the stages come together. Externally it appears like two semicircular masses with domed tops abutting a central rectangular block, which comprises the library, exhibition rooms, and administrative offices.

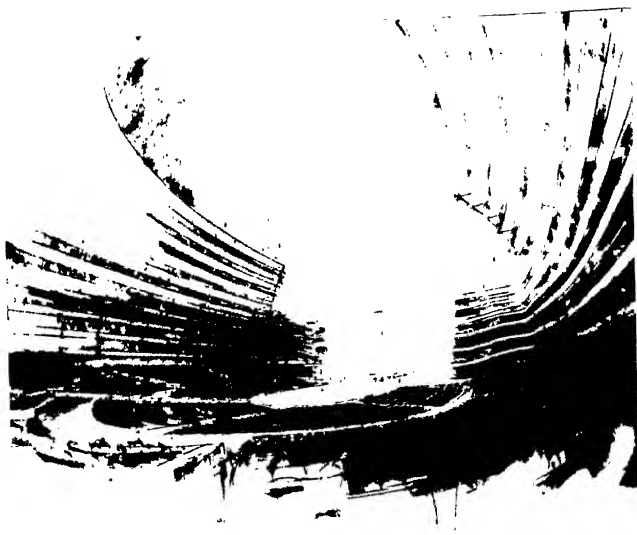
I think the combination of the two halls and subordinate parts into one unified whole is a more impressive arrangement for a building of this kind that is to be the focus of national life, than two or more buildings forming a group separated by parade grounds. It seems to me that the projects by Gropius, Mendelsohn, Doriz and Douchkin, and Langbard are the most successful. In one respect Mendelsohn's design excels, and that is in the expression of the interior design by the external forms.

It is difficult to understand why the Soviet Government organized the competition. Although some Russians might have ideals of the new architecture dedicated to the expression of Soviet life and thought, the jury had no ideas beyond Hellenistic, Roman, or Renaissance architecture. They

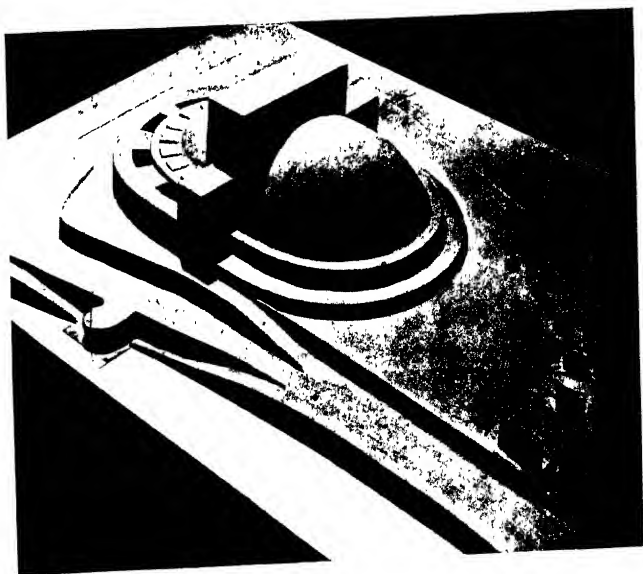
ДВОРЕЦ СОВЕТОВ В МОСКВЕ
ПЛАН 1 ЭТАЖА



Figures 87 a and b. Palace of the Soviet, Moscow, 1929 (international competition). (a) Floor plan (b) Section



Plates 24 a and b. Palace of the Soviet, Moscow, 1929 (international competition). (a) Interior. (b) Model



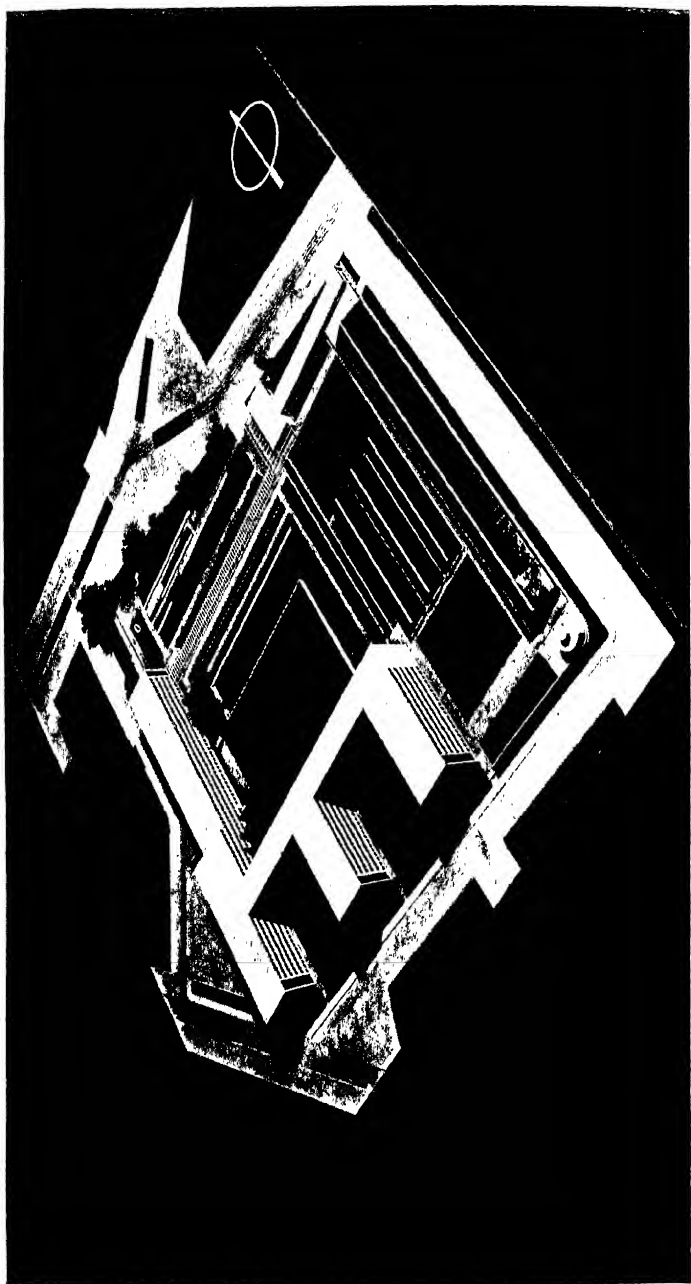


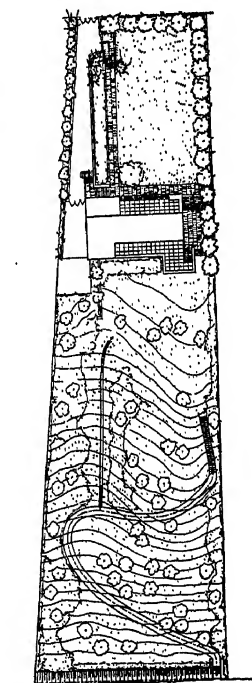
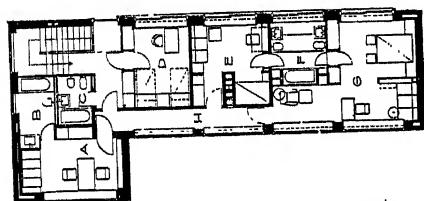
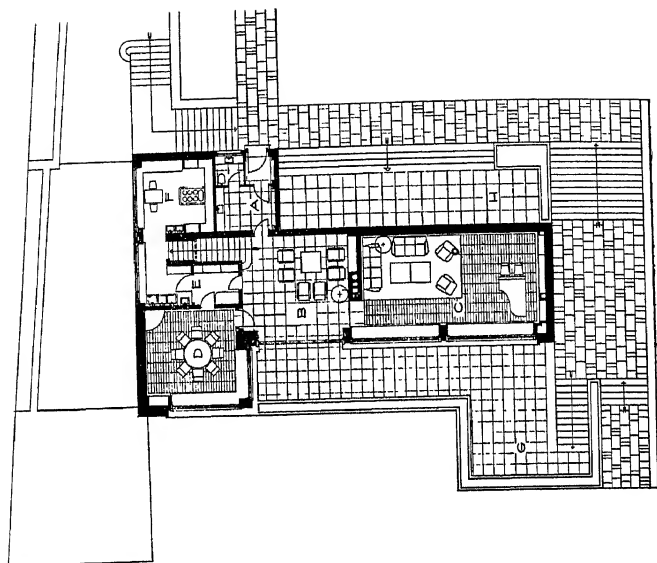
Plate 25. Administration building, German Nitrogen Syndicate, Berlin, 1929 (competition).

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did not look for a means of expressing the life of Soviet Russia in the powerful forms of the new architecture, but thought they were expressing what was wanted by vulgar ostentation, and that is what the Russian people have got. Derived from debased and grandiose Hellenistic (as distinct from Hellenic) architecture, and composed of tiers of colonnades, rising to a height of 1,350 feet, with a gigantic figure of Lenin, 260 feet high, at the top, it is like some Brobdingnagian wedding cake. It is a melancholy reflection when one considers the many impressive designs available that the U.S.S.R. should erect this childishly conceived skyscraper.

It is pleasant to turn from this to Mendelsohn's new home. To the west of Berlin, where the Grunewald forest adjoins the Havel lake, the ground slopes for some distance to the water's edge. Above this slope a road is cut and a few modern residences are built along it. At a point by the Rupenhorn Mendelsohn built his own house in 1929. The site is a long narrow strip running east and west from the roadway down the slope, gradually widening towards the lake. A stretch of level ground of about 180 feet is occupied by the front garden and the house, and then the descent begins. It is thickly covered with trees such as fir, oak, acacia, elder, silver birch, and willow, and many flowering shrubs have been planted, which in this position seem to continue their rich summer blossoms into the autumn. Where the descent is steepest the path changes to travertine steps. Ascending from the lake towards the house, silver birches spread their delicate patterns against the plain pale walls of the house and against the sky, demonstrating how beautiful is the combination of trees with the large plain masses of modern building.

The house, constructed mainly of steel and brick, extends almost the whole width of the site. It is long and narrow, as can be seen from the plans and illustrations, consisting mainly of a series of rooms in succession, but rooms project from the main rectangular block on either side at the north end. It is built on three floors. The basement (which means only a slight depth, with windows above the ground level) consists of the servants' quarters, store rooms, gymnasium, and most of the machinery connected with the various devices in which the house is rich. At the north end are the garage and service court. On the ground floor (see plan) are the living quarters, which consist mainly of dining-room and kitchen at the north end, and the hall and music room extending the whole length of the remainder. These rooms open on to a terrace from which a beautiful view is obtained, the trees of the garden forming the foreground, and beyond these the lake and the blue distant shore. Between the hall and



Figures 88 a, b, and c. Mendelsohn's own residence, Rupenhorn, Berlin, 1929
(a) Ground floor. (b) Upper floor. (c) Layout



Plate 26. Mendelssohn's residence, Rupenhorn, Berlin, 1929

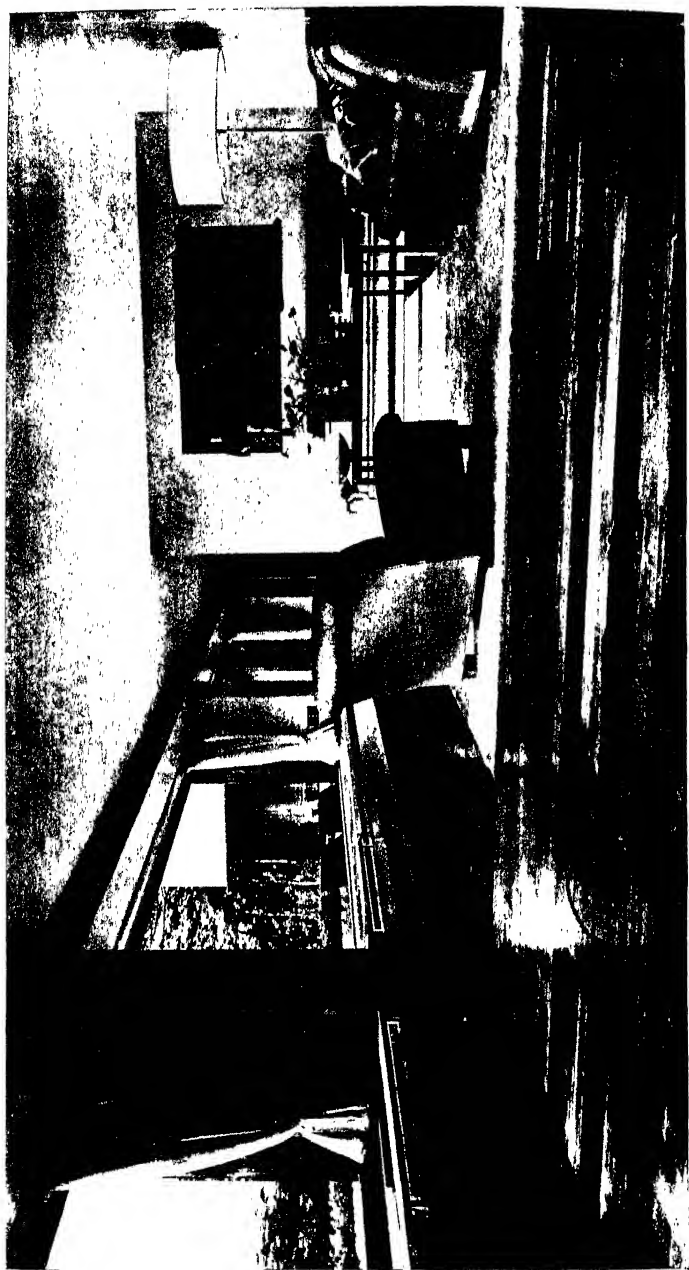


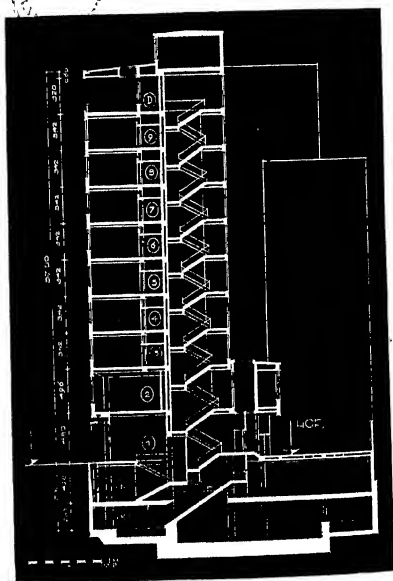
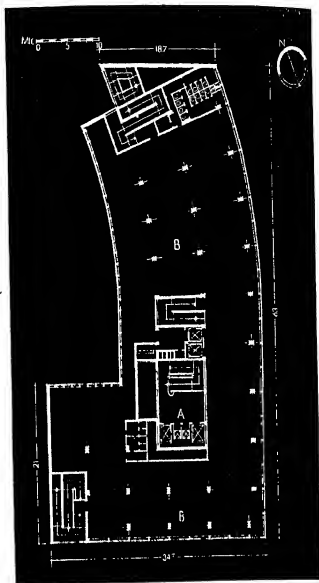
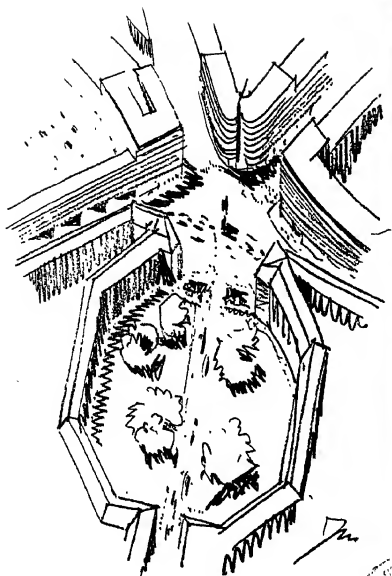
Plate 27. Mendelsohn's residence, Rupenhorn, Berlin, 1929; drawing-room

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terrace is a glass wall which sinks into the basement by means of electrical machinery below. The large windows of the music room and dining-room sink into the sills on the same principle. The east wall of the hall and music room is windowless and provides, on the exterior, a background to the terrace designed for theatrical performances and dances. The upper floor consists of the bedrooms, bathrooms, and Mendelsohn's work-room, with a breakfast terrace at the north end abutting on the east side. The rooms of Mendelsohn's wife and daughter and the guest rooms all face east, with the corridor on the west side.

Throughout the interior there is studied economy of space by the process of recessing as much as possible in the walls. Thus in the music room, cabinets for music and for stringed instruments, and, in the hall, for telephone, wireless, gramophone, and records are all built in behind folding and sliding doors; in the bedrooms, wardrobes, cupboards, and bookshelves are recessed, and in the daughter's room the work-table folds down from the wall. The radiators are situated beneath the window-sills and are partially boxed in. There is a good deal therefore in this house, much of its fundamental mechanism and important accessories, which are concealed from the eyes, like the organism beneath the skin, and not, it is worthy to note, paraded as in some functionalist architecture. The sense of function is here combined with artistic sensibility, and the rooms have been designed with the chief thoughts for health, beauty, and comfort. The colour scheme is pale throughout, the scheme in each room being an extension of the motif of a central decorative feature: the painting by Ozenfant, symbolical of the arts in the hall; a bronze relief by Mataré in the music room, and Feininger's *Gelmeroda IV* in the dining room. It is significant that the music room is the largest room in the house, and is dedicated to the spirit of Bach. That the whole house has been designed under the influence of Bach's contrapuntal music is observed both by Amédée Ozenfant and Erwin Redslob in their introductions to the book on the house published in 1930, a book, by the way, which contains many beautiful illustrations. But to those who think less musically the main impressions are, perhaps, the very efficient planning, the sense of serenity and repose conveyed by the nicely adjusted plain rectangular forms both internally and externally, its wide-spreading union with the earth, and its very happy marriage with its surroundings, the lovely wooded slopes with the peace instilled by the breadth of water beyond.

In the early nineteenth century Schinkel had built two little Greek temples on either side of the roadway to form the western gate on the road from Potsdam to the city of Berlin. On either side of the gateway were



Figures 89 a, b, and c. Office building, Columbus House, Potsdamerplatz, Berlin, 1931
 (a) Replanning of Potsdamerplatz. (b) Typical floor plan. (c) Section

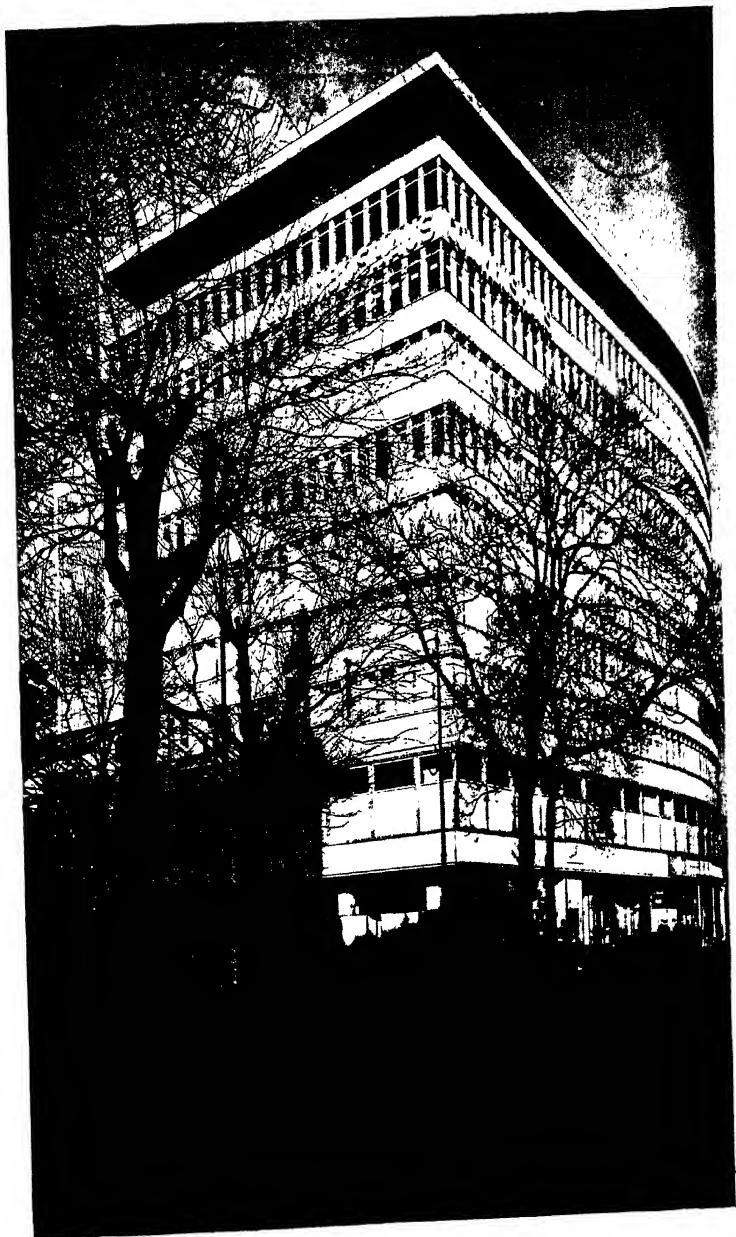


Plate 28. Office building, Columbus House, Potsdamerplatz, Berlin, 1931

*Plates 29 a and b. Office building,
Columbus House, Potsdamerplatz,
Berlin, 1931. (a) View from Schin-
kel's Gatehouse*



(b) Cantilevered roof terrace

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open spaces, that to the east becoming Leipzigerplatz, and that to the west becoming Potsdamerplatz, and becoming also the centre of four important radiating streets. During the latter part of the nineteenth century the area was allowed to develop rather haphazardly, and pseudo-Renaissance buildings projected into the Platz at the expense of all ideas of unity. Since the last War the city of Berlin entertained hopes of redeeming this architectural muddle. To revive the spacious unity of Schinkel's day was a dream beyond economic possibilities, so it was resolved to compromise and erect high buildings on the three corner sites between Friedrich Ebertstrasse, Bellevuestrasse, and Potsdamerplatz and Stresemannstrasse, and so provide a focus group of three large masses facing Leipzigerstrasse. It was in connection with this scheme that Mendelsohn designed the store for the Galeries Lafayette in 1928, to occupy the site between Bellevuestrasse and Stresemannstrasse, now significantly renamed Hermann Göringstrasse. This building, with those on the two other corner sites, was to be twelve stories, and additions were to be made to adjoining buildings so as to obviate a too sharp contrast in heights. The scheme was to include an entrance hall in Potsdamerplatz for the Underground Railway. A feature of the project for the Galeries Lafayette was the large letters, forming a decorative finish at the summit of the building. In essentials, however, the building foreshadowed the Columbus House, the first project being abandoned.

Columbus House was commenced early in 1931 and completed in less than a year, a remarkable speed when we consider that the building is twelve stories high, has a frontage to Hermann Göringstrasse of about 210 feet, and a frontage to Bellevuestrasse of about 115 feet. It is a narrow ground plan, having a depth from the Hermann Göringstrasse front of about 100 feet on the two lower floors, and about 80 feet above. It curves slightly on this frontage so as to allow a right angle at the corner.

The building is designed for shops on the ground floor, restaurants on the lower ground floor and first floor, then seven floors for offices, and a roof garden restaurant at the top. The construction is by means of a steel skeleton, which deserves special attention because of its originality and effectiveness. Running all round above the first floor a heavy beam is cantilevered out 5 feet 3 inches. This beam taking the weight of the floors above, allows on the front part of the building, a light steel skeleton, and in these upper floors the heavy constructional work is kept back from the frontage. The method of construction is clearly seen in the illustration, and it is interesting to note that it was copied in Peter Jones's store in Sloane Square. Although the character of the façade is dominated by the hori-

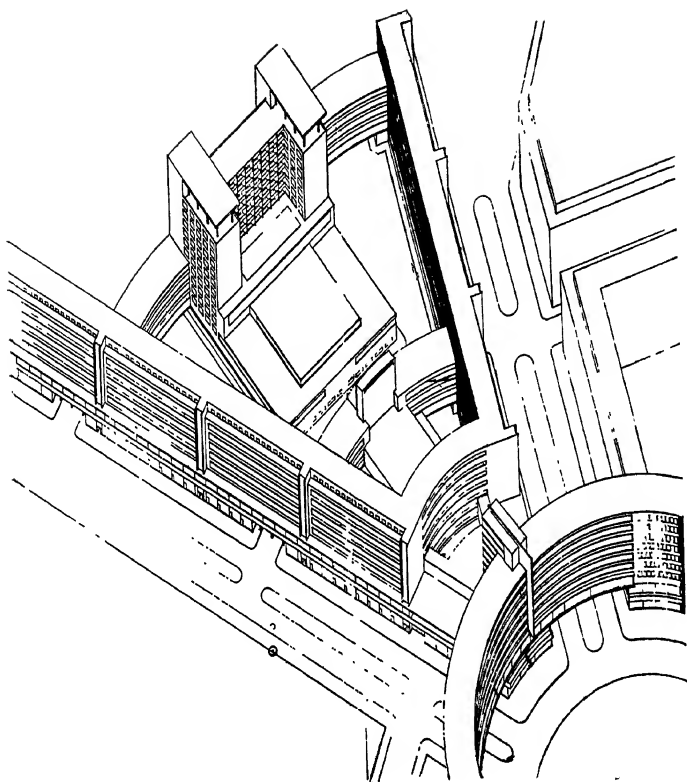
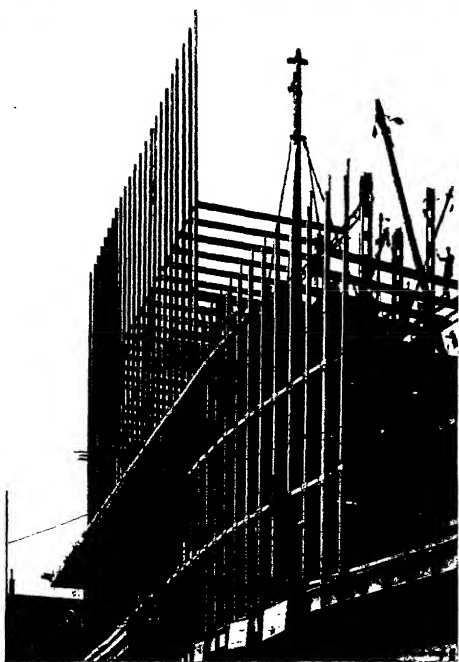


Figure 90. Town Planning scheme, Alexanderplatz, Berlin, 1931
—showing office buildings, cinema, assembly hall, and hotel



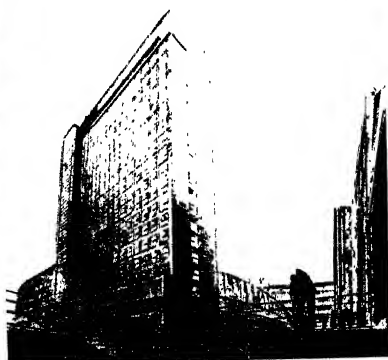
*Plates 30 a and b. Office building,
Columbus House, Potsdamerplatz
Berlin, 1931. (a) Detail of façade*



(b) Construction



*Plates 31 a, b, and c. Berlin Passenger Transport building, 1931
(competition, 1st prize). Perspective and six preliminary solutions*



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zontal glazed bands, every window-mullion is a light constructional unit wide enough to accommodate a partition wall every six feet, providing therefore a serviceable flexibility in office accommodation. The garden restaurant at the top is sheltered by a roof constructed of steel projecting 20 feet without support for the whole extent of the two frontages. The horizontal bands of glass and polished cream travertine turn the corner without a break, and are arrested by a large vertical glass area enclosing the escape staircase and covered by a grill of chromium-plated tubes for the accommodation and limitation of illuminated signs.

It is possible to get very good views of this building. The best view for obtaining a notion of the entire design, as both façades are clearly seen, is from the opposite side of the Potsdamerplatz near the Haus Vaterland. Rising to a height of 125 feet with its uncompromising horizontal emphasis, it has from this point a grandeur and magnificence which make it for me the most impressive modern building in Berlin. From the Leipzigerplatz the Hermann Göringstrasse façade is seen, and it provides a very pleasing background for the trees, while Schinkel's two Greek temples, different as they are, do not appear inharmonious. It is because both works are actuated by a fine sense of proportion.

Two further important projects occupied Mendelsohn from 1930 to 1931. He won the first prize in the competition for the main office of the Berlin Passenger Transport building. This was to occupy a triangular site fronting on Friedrichstrasse on the east, with the other sides of the triangle formed by the Spree and the station. As will be seen from the photograph of the model reproduced, the project includes a tall sixteen-story block, long and narrow, which is clasped at its base near the apex of the triangle by the spanner-like form of a much lower six-story block facing the whole Friedrichstrasse front and bridging the entrance to the courtyard. In the centre area formed by these blocks is a glass-covered swimming-pool, with a glass corridor of shower baths, curved to harmonize with the circular formation at the apex of the triangle. The ground floor is occupied by shops, the administrative offices are situated above in the long, spanner-like block and in the tall block, while restaurants and cafés are placed at points convenient for the public, the office staff, and the swimmers.

Another project at this time was the town-planning scheme at Alexanderplatz. It consists of the development of the triangular area between two of the radiating streets, and the very daring and thrilling tall circular block, bridging the streets, and really designed with the idea of completely encircling the Platz. Original and daring as it seems, this device may one day become a common feature of European cities.

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Owing to the economic depression that swept the world from 1931 to 1934, and which visited Germany with a severity that was to have far-reaching repercussions, the Berlin Passenger Transport designs and the Alexanderplatz design have remained projects.

From 1930 to 1932 Mendelsohn travelled a good deal. In May 1930, in answer to an invitation, he went to Greece to lecture. While he was in Athens the proposal to erect a Palace of Justice near the Parthenon was being discussed, and Mendelsohn joined in the international protestations against this, protestations that were ultimately successful. Remembering his early enthusiasm for Greek culture, it was inevitable that he should be greatly moved by the remains of that unique civilization. The tone of his veneration is expressed by a sentence in a letter home: 'The true greatness of its nature and of its spirit, that is eternal, and eternally a mystery.' A little later in the year he was in Spain in connection with a project for a country house for the Duke of Alba near Madrid.

In May of 1931 Mendelsohn paid his first visit to England as the guest of the Architectural Association. While he was here an exhibition of his work was held at the Architectural Association, and he delivered a lecture to the Association on 'The Laws of Modern Architecture', this lecture being very largely an amplification of that which he had given in Pittsburgh in 1924. The Architecture Club gave a dinner in his honour, and on this occasion he gave a short address on some of the principles and the significance of the 'Architecture of Steel and Concrete'. I remember Howard Robertson, then head of the Architectural Association School, gave a broadcast on Mendelsohn's impressions of London, especially of its modern architecture. Certain points of the broadcast remain in my mind. Howard Robertson said that Mendelsohn found little of merit in the modern architecture of London; there was nothing so good as the Crystal Palace.

Late in 1931 Mendelsohn was in Corsica in connection with a project for a French company. He had gone by way of Paris and Marseilles. 'This great city, Paris,' he writes to his wife, 'which never received her greatness, and never lost it, was apparently always like this. Built strictly upon an axis, without the experiments emanating from dynamic forces, Paris carries on the tradition of the Mediterranean, of the Romans, and of the Medici. Paris will still be new when the new world has left its experimental stage.' He remarks the splendid situation of Marseilles, but adds that 'Here there is not the faintest idea of architecture. God! what there is to do still; for the face of the world cannot remain like this'.

In the spring of the following year he was again in France, this time in

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connection with a project for the European Mediterranean Academy of Arts, at Côte d'Azur, near Cannes. One interesting reflection about the country here and its relation to this project occurs in a letter home. He feels the essential character of the country. 'Up winding ways to Le Luc. Nature here is unspoiled, unharmed, simple, breathing deeply. The little towns have the aspect of southern Spain about them. The shadows in the angles of the stone walls, the quiet squares with the great tangle of their plane-trees, seem to be deeply loved by the people. With their water-ways and fountains, their general manner of life is that of an ancient people. But it is too remote to be the "Académie de la Méditerranée" if it is not to become a cloister. Only contact with the world brings problems up for judgement and solution.'

There is one more large and important undertaking that Mendelsohn was engaged on before his departure from Germany, the large zinc works and power-station in Magdeburg, the building of which was started in 1932, the year Mendelsohn was elected a Member of the Prussian Academy of Arts, in Berlin. These works were on the largest scale, and may be regarded as a small town, which include the power-station, factory buildings, administration offices, houses for the directors, social institutions, and schools. Care was taken so to relate the parts of various buildings that it should work smoothly and efficiently as a perfectly functioning organism. To convey an idea of its size, the sulphuric acid installation is 1,000 feet long and 100 feet high; the three chimneys are each 500 feet high, that is 135 feet higher than the top of St. Paul's. Some idea of the scale can be gathered from the photographs of the model reproduced. The length of railway line and trucks afford a rough standard of measurement.

In 1932, when the economic depression was affecting Europe, Mendelsohn attended the Congress of the International Institution for Cultural Collaboration at Zürich, and delivered an address on 'The Creative Spirit of the World Crisis'. In this paper, which was published shortly afterwards, he makes a survey of the political and social conditions in Europe before and after the last War, and of the principal European tendencies in the arts of architecture, music, literature, painting, and sculpture, and the sciences. He regards the state of the arts, particularly architecture, as symptomatic of the general state of society, and contends that the problems that confront society are the same as those that confront the arts, solutions of the problems being fundamentally the same in each case. These solutions are derived from natural phenomena and may be stated as the principles that actuate organic growth and structure. There is a

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reiteration of the principles of unity based on natural phenomena that seems to be the governing motive of Mendelsohn's thought and work. This is the creative spirit that gives the title to the address, and which is defined as the impulse towards the unity of the whole, and the harmony of all separate parts. It is the contention that if this simple principle is followed and universally applied, it will guide the world out of all its troubles. He supports this with a good deal of persuasive argument based on the intuitive apprehension of European conditions in the various departments of life. I deal more fully in the last chapter with the ideas expressed in this lecture, as they constitute the guiding aesthetic principle of Mendelsohn's work, and his philosophy of life.

The narrative has now reached the end of the year 1932. Mendelsohn was to spend only a few more weeks in his native land. The circumstances of his departure I will reserve for the next chapter.

6. A FRESH START

England 1933–1936

The rise of National Socialism to power in Germany, with its programme of racial exclusiveness as a part of the movement towards intense nationalism, resulted in the old barbarity of racial persecution. To remain in Germany and be an eminent subject of this barbarous persecution was intolerable to a self-respecting man. So Mendelsohn said good-bye to his native land in March 1933. He had sprung from a stock that can be traced in East Prussia since the middle of the eighteenth century, and his wife's ancestry in Germany can be traced still further back. All the traditions and associations of Mendelsohn's life were German; and during the Great War he had fought for the country that was now controlled by powers whose policy it was to deprive him of all that he had lived and worked for. His case is symptomatic of many, and it is well known that since 1933 Germany has lost to other countries some of the finest brains of modern civilization. Certainly, since 1933, the greatest German artists have shaken the dust of their native land from their feet in disgust, not necessarily because of racial persecution, but because of the conviction that art can only flourish under a liberal and cultured administration. In National Socialist Germany art is officially directed along classical lines for the glorification of the State—it is standardized, in fact; and the free development of artistic expression and experiment, emanating in painting and sculpture principally from the light thrown by the recent rapid development of psychological research on the complexities of modern social life, are officially restricted. In a letter written early in 1933 Mendelsohn himself had said in reference to German despotism: 'These are the prison bars to a free brain; a thousand times the way to the guillotine; each second a barbed wire to the creative passion.'

In architecture the years 1928 to 1932 mark the summit of German achievement. After that she turned back along the road which she had come, but unlike the work that had gone before there is not the vitality of

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development to a more complete expressional and structural form, but a return along a well-worn road. Exception must be made in the case of that great old man Peter Behrens, but most of the other modern progressive architects still in Germany are doing no work and are really buried alive. Architecture that has official blessing and which represents, of course, the bulk of the work is essentially degenerate, and results in such mediocre productions as the Air Ministry buildings in Berlin, which the German people are expected to admire.

Early in 1933, Mendelsohn was in Brussels to attend the celebration of Henry Van de Velde's seventieth birthday; and it was here that he was asked by a great industrialist to write a pamphlet on the contemporary political, economic, and social conditions of the world.

I have remarked that Mendelsohn has an intuitive apprehension of the essential character of things, and a power of vividly expressing it. This is, of course, bound up with his particular ability as an architect, while his powers of expression are strongly apparent in this pamphlet. I propose to quote at length from it, because I think it contains some of the best comments on National Socialism, and on the essentials of the Jewish character, and the relation of the Jew to modern society, that have ever been written.

Firstly he deals with the Revolution in Russia, and speaks of the rationalist Marxist doctrine finding an uncongenial soil in the irrational ground of Russia. He criticizes Russian industrialization, and suggests that Russian strength is in agricultural developments. 'Had its agriculture been developed', he contends, 'it could have absorbed the European excess of human energy and technical capacity, and in its turn supplied and nourished Europe.' He suggests that what he regards as the collapse of the Russian experiment makes the German National Socialist Revolution possible. After dealing with the failures of the German Social Democrats, he gives a succinct yet penetrating account of National Socialism. 'The birth and development of the National Socialist Party', he writes, 'is not a miracle, but the logical result of a loss of balance. The psychological understanding of its leaders is extraordinary, as is their dynamic power and the certainty of their advance; just as remarkable is their physical preservation through every danger, the assumption of power at the critical moment, their ability to create symbols for the masses—the myth of a believing and credible mission. Its *Socialism* appeals to the embittered and disinherited; its *Nationalism* to the slandered heroes of the last War and the vitality of youth. But its Socialism denies the Marxist creed. It does not desire a class-war, a war against bourgeois order and society—it seeks a mitigation of unbearable contrasts, that is, the proper ratio be-

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tween rich and poor, between service and reward, indeed, the re-establishment of the middle-class as the backbone of the nation. Thus "Socialism and Nationalism" are not only revolutionary watchwords, but fundamental elements in a general sense.

"The National Socialist Revolution as a German experience is a complete revolution, a revolution in economy and in politics. Actually it is a counter-revolution. The elementary revolution of political freedom against the deadening effects of defeat in 1918 and against the slavery of Versailles. The revolution of economic reconstruction against decline and economic collapse. The political revolution of the nationally bound forces against the fluctuating international. This is where the German experience concerns the entire world.

"National Socialism turns automatically against Marxism and the Jews. It looks upon Marxism as the denial of the biological laws of nature to which all organic life, and hence man himself, is subjected. The native soil is the foundation of purity and strength of the nation. Thus the individual, the clan, the tribe, the whole nation are bound to it by blood, nature, and language.

"The nation is limited by its frontiers, which means that it finds its human limits in the peculiarities of its will, its talents, and its character. Thus all foreign influences are to be eliminated from every sphere of intellectual and spiritual life.

"The nation has its economic limits in the self-sufficiency of its means of subsistence, in the equilibrium between its agricultural and industrial production—hence a return to the land of the superfluous population, economic nationalism and autarchy, renunciation of export. For world economy makes one dependent on foreign countries, on strangers, on international capital. Better therefore to remain poor but one's own master.

"The nation has its political limits in a territory sufficient for its population, in the preservation of its ethnical and territorial existence. It is the task of the nation to remain as pure, as united, as strong as possible within these limits. Therefore it is the duty of the nation to defend its soil, its country, for only the strong have the right to lead their own life and to be equal with other nations. Hence the re-awakening of the nation's will to defend itself, the renewal through physical and moral training of its power to do so, through the creation of symbols uniting the past with the future. National Socialism will not tolerate the effacement of the nations in internationalism, for this constitutes a weakening of national character, a dissolution of national power.

A FRESH START

'The very nature of things determined that the first blow should be dealt against Marxism. At the same time it was the necessity of the moment to annihilate the political opponent, the opposition at home. The second blow falls upon the Jews, the second beacon of internationalism.'

He then gives a brilliant picture of the Jews and their relation to modern society. 'The Jews', he writes, 'are the only people on earth without a native soil or a national unity—a people which seeks the hospitality of all the world. As this hospitality has been granted for thousands of years, for centuries in Germany, whole districts have been influenced by the Jews through the mingling of blood and ideas. All efforts to become one with the native people—compulsory through the inquisition, voluntary through assimilation—have failed.

'As by a miracle the Jews are the only people of ancient times to retain their individuality: blood, language, mentality, and religion, in spite of continual wanderings without a country, in spite of their subjection to physical and moral influences, persecution and bitter tribulation the world over—down the centuries. Their suffering has only succeeded in strengthening their resistance, in encouraging them to endure more than others. Enmity has brought them increase, has strengthened their individuality, the better to penetrate the designs of the world. Every outside influence has but sharpened their wits, the better to strike their adversary. Distress and danger—the thousand terror-ridden moments of their history—have fashioned their gift of rapid thought, the lightning reactions of their brain. Their constant oppression has largely created their gift of immediate adaptation to the psychology of their opponent.

'Hence the southern, Semitic mind, more rapid in its working, disturbs the northern character, more sedate because closely bound to the earth; it arouses suspicion and antagonism. The more rapid economic rise of the Jew breeds envy—the oriental display of wealth, particularly amongst the uncultured Jewish classes, breeds hatred.

'Those who wage an eternal crusade against the Jews see them as a dispossessed and easy prey, and regard them as a guilty people. For guilty are those who have no land, who have no nation, who for their defence may use only their wits and not their fists. The Jew, excluded for so many centuries—in Germany even after the emancipation—from military service, from political and governmental activities, devotes his material existence to money and goods, commerce and industry; his intellectual life to the liberal professions, disproportionately often to criticism, journalism, and the reproductive arts, often to science; rarely to the domain of productive art and literature. He is always *spiritus rector*—rarely the real



Plate 32. Zinc factory, Magdeburg, 1932 (model)

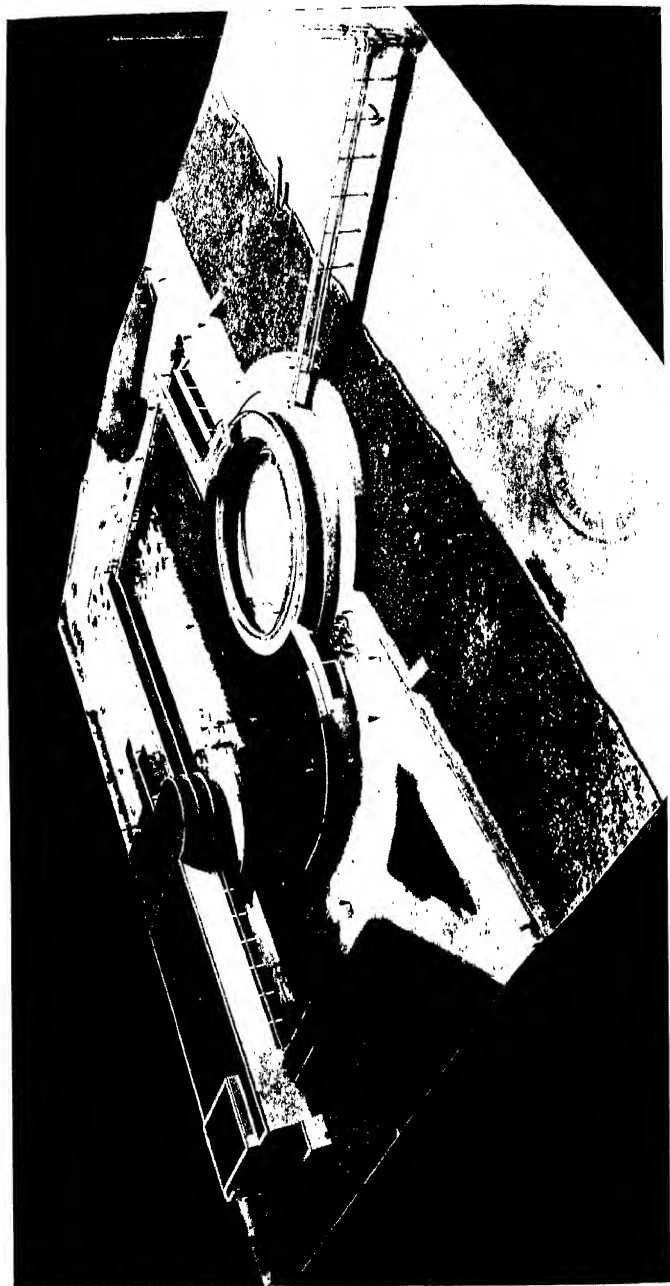


Plate 33. De La Warr Pavilion, Bexhill-on-Sea, 1935 (model)

(In partnership with Serge Chermayeff)

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worker; always leaven, rarely creator. Out of the repression of his manly powers he struggles for freedom. Thus his instinctive impulse leads him to join every idealistic movement, to foster doctrines of mutual aid, doctrines destined to benefit mankind and the rights of man.

'Every humanitarian movement, every movement towards freedom, which does not exclude the Jew, finds in him the most ardent leader. This was the case in the revolutions of the nineteenth century, the social revolutions in Germany and Russia. The native people see only the effect, not the causes, the increase in the number of Jews through immigration from the East, not the migration as a whole resulting from the last War, the increasing influence of the Jews, not the failing of *its own* power. It hates the objectivity of the Jew, the dialectic of his variform mind; it sees only the ability, not the spirit; only the Cabbala, not the Bible.

'Hatred of his foreign way of thinking makes his virtues and his merits hateful too, his foreign manner breeds hatred of his blood and race. Racial hatred is employed to attract the discontented, to distract their attention and excite their instincts.

'German National Socialism even goes so far as to judge the Jewish community by its degenerate representatives, and to condemn it in its entirety before the eyes of the civilized world at the very moment when the Jews, after being dispersed for two thousand years, find their way back to their native land, back to their soil, their language, their renaissance as a nation; before the eyes of the nations at the very moment when Germany denies the fourteen-year-old slander of the war-guilt clause of the Treaty of Versailles, and makes its demand for equality the basis of its own national reconstruction.'

Mendelsohn then goes on to speak of the German idea of the Aryan as the chosen race, and deals with the danger of German and other nationalisms—'national and economic egoism have everywhere unhinged the balance of the West'—to the political, economic, and cultural development of the world. In fact the moral of the pamphlet is that if civilization is to progress in the best sense the nations and races of the world must work together and co-operate for their common good, realizing the ideal of organic unity—the perfectly felicitous state in every phase of life. The pamphlet is partially an account of some of the powerful obstacles to this. The recognition and understanding of an obstacle is half-way to its removal, but unfortunately these obstacles mostly take the form of blinding prejudices and mutual mistrust.

In the summer of 1933 Mendelsohn came to England with the intention of practising here as an architect. He entered into partnership with

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Serge Chermayeff, whom he had known for some years. Mendelsohn was thus making a fresh start in a foreign land. He was given a warm welcome by many important British architects, especially those who had for long admired his work in Germany, and who were proud to have him working among them, regarding his presence as an inspiration.

An interesting side-light is thrown on his reception in this country by Professor C. H. Reilly in his *Scaffolding in the Sky*.¹ Reilly, with his usual gusto and good-heartedness, is speaking of the many famous people who visited the Liverpool University School of Architecture, among them Ramsay Macdonald, Arthur Greenwood, Lord Riddell, and Duff Cooper, and he goes on to say that 'the most dramatic of all the visits of distinguished persons to the school was that of Erich Mendelsohn, the great German-Jewish architect, and of Louise, his quiet, lovely, dignified wife'. Reilly, whose opinion has won respect, speaks of Mendelsohn as 'the most brilliant architect in Europe of the modern school'. At this visit Mendelsohn gave a lecture and showed some of his sketch designs on the screen, and afterwards Reilly addressed the assembly and enthusiastically remarked that 'the great man was to become an Englishman and that it was like adding a Continent to the Empire, and one which would not cost us anything'. This visit to Liverpool took place three weeks after Mendelsohn's arrival in England, and it was partially through the representations of Reilly, Sir Giles Scott, then President of the R.I.B.A., and Sir Ian MacAlister, its secretary, that the Home Office extended Mendelsohn's original permit of five weeks to five years to enable him to become naturalized. Thus in 1938 Mendelsohn became a British subject, and a few months later he was elected a Fellow of the Royal Institute of British Architects.

In a lecture on his own work given during the early months of his residence in this country Mendelsohn said: 'I consider it a sign of her goodwill that your mother-country, England, long renowned for tolerance and love of liberty, has permitted me to start my life and work afresh . . . with all the difficulties of childlike development—new language, new customs, new laws, new people, but also the expectation of a new field of endeavour.'

For the next five years Mendelsohn was to divide his time between England and Palestine, where he has been engaged on several important buildings, with which I will deal in the next chapter.

The first work in England that Mendelsohn was engaged on in conjunction with Chermayeff was a house at Chalfont St. Giles in Buckinghamshire, which was built at the end of 1933. This house possesses many of the characteristics associated with Mendelsohn's German work, such as

¹ London, 1938.

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the long horizontal character, and the relations of curved forms to straight. The familiar semicircular projection is here only as marking, very pleasingly with a concrete plant-trough, the boundary of the terrace. Another distinctive note is where the wall curves back round the staircase at the right of the entrance.

An examination of the plan provides a good lesson in convenient arrangement combined with excellent positioning of the rooms with regard to sunlight, wind, and rain. The house is constructed throughout of four-inch reinforced concrete walls, with external rendering and an internal lining of one-inch insulating cork. A particularly pleasing feature of the interior is the staircase, the generous swing of which is emphasized by the long parallel lines of the stainless steel balustrade and oak handrail.

Early in 1934 Mendelsohn and Chermayeff won the competition for a municipal social centre at Bexhill, comprising a pavilion and a swimming-pool. One part, the pavilion, was completed in December 1935 when it was opened by the King, then Duke of York. It is now famous as the De la Warr Pavilion, and ranks among the finest modern buildings in England. It is certainly the finest example of seaside architecture that has appeared in England since the last War.

Le Corbusier has made the obvious remark that gravitation gives us the vertical and the horizon the horizontal. Obvious as this is, its significance for architecture has too often been ignored. It is a commonplace that a building must accord with, and take some of its character from, its surroundings. In city architecture existing buildings suggest this, though in the sense of proportion and scale, not in style; but in the open country the nature of the landscape and the lay of the land should partially determine the character of a building. Looking out to sea one is generally more conscious of the horizon than elsewhere, and the horizontal seems to demand some response in buildings by the sea. A harmony comes of this, foreign to the massive hotels with classic dressings that are just as suitable in Piccadilly as on the Brighton front. Instead of massive buildings on the sea front a series of horizontally emphasized buildings beginning low and gradually getting higher as they go inland, suggest the grand step-terrace effect which is, at present, merely a dream of the future, although the dream once nearly materialized in Mendelsohn's Haifa project of 1923.

The value of the low horizontal building near the sea is gradually being realized. Louis de Soissons' Cornish Riviera Club is a welcome step in this direction. Wells Coates's Embassy Court on the Brighton front has the horizontal emphasis, but it is 110 feet high, with no chance for buildings behind to get a glimpse of the sea. But the De la Warr Pavilion

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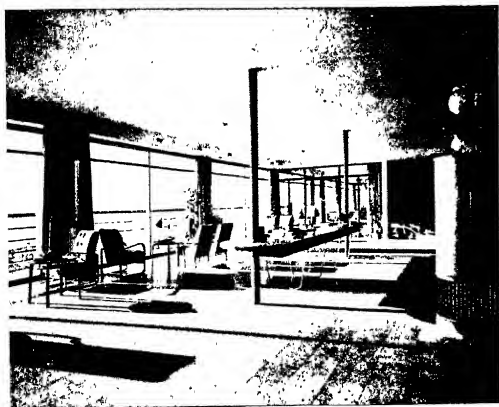
at Bexhill seems to me to possess all the ideals of seaside architecture. The people of Bexhill are to be congratulated on this enterprise. They might have had one of those funny piers jutting out to sea that can be seen at any of the larger south coast resorts, with an erection at the end looking as if it were very ornately covered with sugar icing. Instead they have a long, low, horizontal building that responds in character to the sea beyond, and one that is constructed in the most scientific manner, and furnished with exquisite taste. Built of steel and glass, it was the first storied building in the country in which welded steel has been used.

The beauty of the ensemble can only be properly judged when the complete scheme is visualized, when the circular swimming-pool, with its attendant structure, appears between the pavilion and the sea on the axis continued from the entrance hall, which constitutes the centre part of the pavilion. The beautiful spiral staircase at the south end of the hall projects beyond the main body of the building, and this projection forms a semicircular glass shell with concrete balconies.

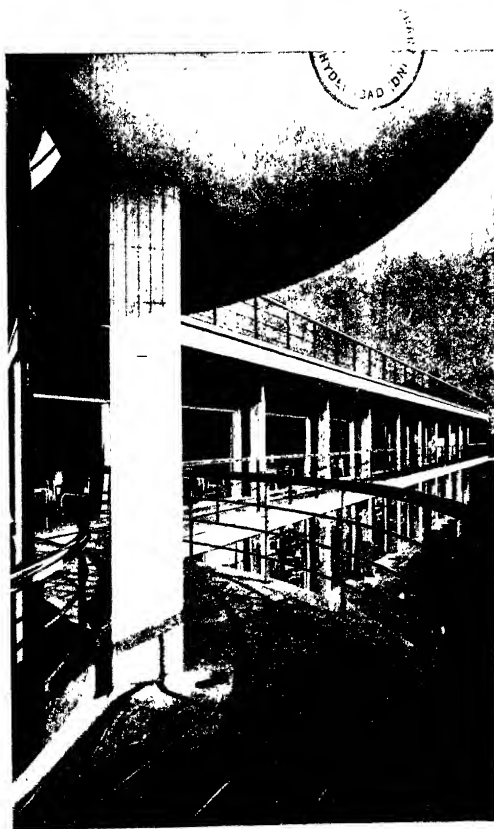
The curve is repeated by the edge of the terrace, and at a point where the steps descend to the lawn there was to be a figure twenty-six feet high on the axis line, and thus arresting at a vital point the curve of the terrace. It was to be a figure of Persephone in reconstructed stone by Frank Dobson—Persephone, who awakens to the joys of the earth in the spring, and who was to stand directing the gaze across the sea to Beachy Head.

In the completed scheme what may be called the south-west circular motif will be echoed by a circular sweep of wall, beyond the lawn towards the sea, which abuts the swimming-pool. It will thus be seen that the design is, on plan, composed largely of circular shapes in relation to long straight lines.

The long horizontal movement arrested at a particular point by a semicircular projection which, as we have seen, is a prominent feature of many of Mendelsohn's buildings, such as the Schocken store at Stuttgart, appears again as a very important characteristic in the De La Warr Pavilion. The semicircular glass projections both enclose staircases at either end of the central block, the projection on the north side being cantilevered above the ground floor in the manner of the Stuttgart store, while the glass staircase shell on the south rises from the ground. The long, low, rectangular mass of the concert hall and ball-room stretches out to the west the full width of the entrance hall except for the projections; while stretching out to the east is the comparatively narrow strip comprising the restaurant below and library and lounge above, continuing the line of the concert hall on the south, but leaving a courtyard for

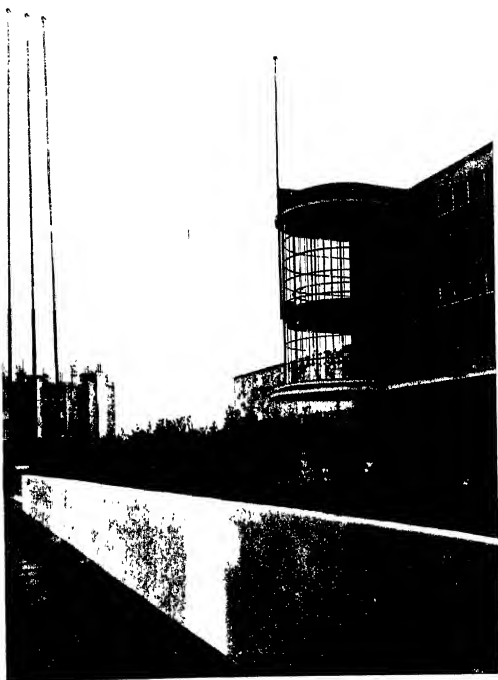


*Plates 34 a and b. De La Warr
Pavilion, Bexhill-on-Sea, 1935.
(a) Library interior*

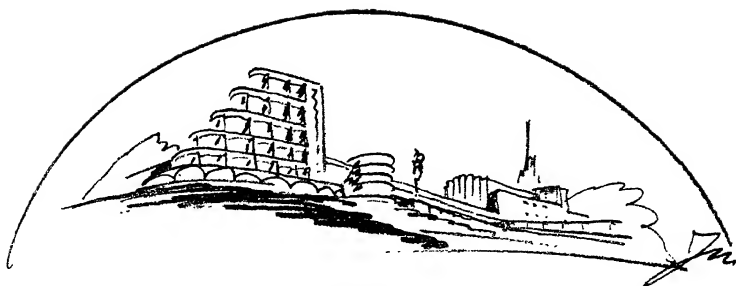


(b) Restaurant and library front

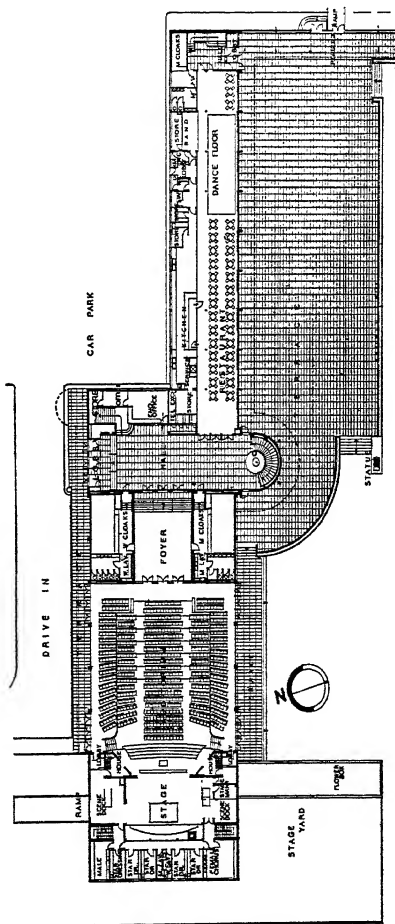
*Plates 35 a and b. De La Warr
Pavilion, Bexhill-on-Sea, 1935.
(a) Staircase—street front*



(b) Staircase—sea front



Figures 91 a and b. De La Warr Pavilion, Bexhill-on-Sea, 1935
(a) Development sketch, showing hotel, pavilion, and cinema



(b) Pavilion (ground floor)

Ground Floor Plan as Executed.

(In partnership with Serge Chermayeff)

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goods traffic to the north. It will be observed that the purpose of each part of the building is apparent in the exterior. The concert-hall and ball-room, where evening performances and dances are the most frequent, is enclosed mainly by a solid wall with few and small openings, whereas the restaurant is a long narrow strip with a glass wall in sliding sections opening on to the terrace and to the sea, while the library and lounge has also a glazed wall to the sea. On the north side of this wing facing the parking-place the wall is solid except for a line of small windows of the kitchens on the ground floor.

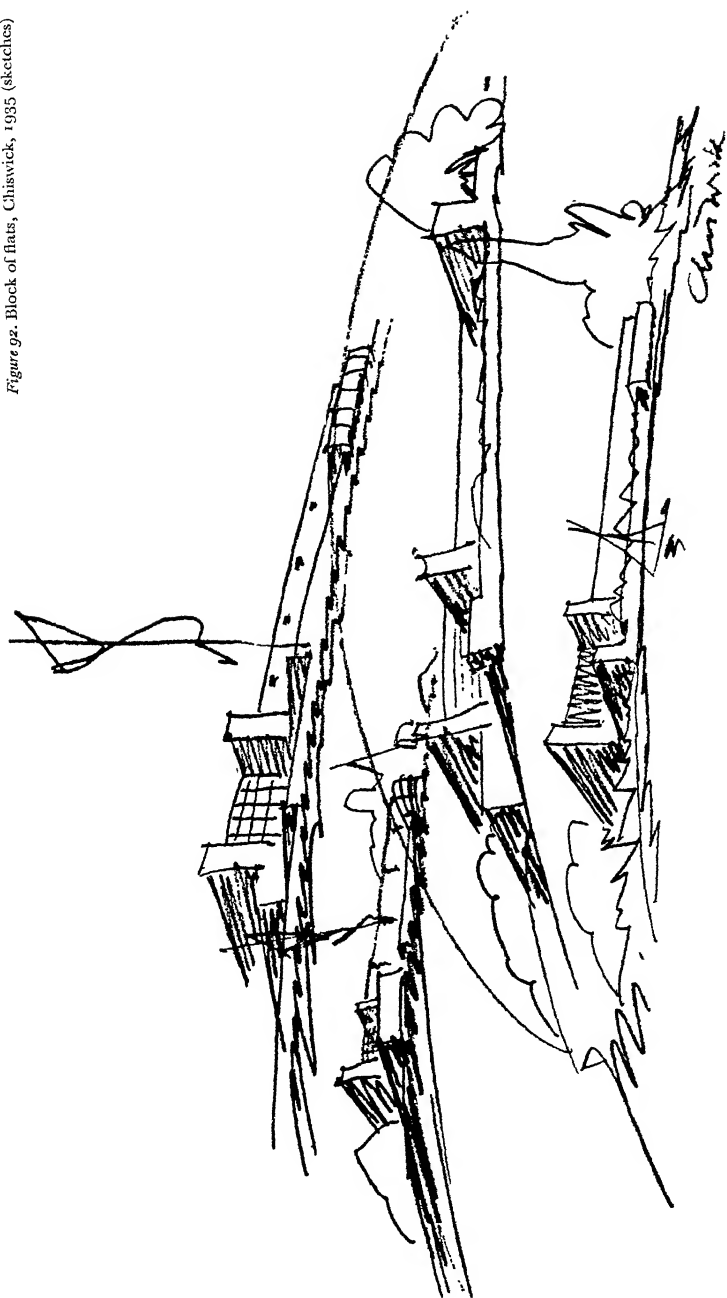
The interior is, I think, agreeable in every way. The view of the south staircase is an aesthetic joy, with the swing of its stainless steel balustrading and handrails to the full height of the building, round suspended neon lights. Leaving the entrance hall by way of a large foyer, one enters the concert hall and ball-room. The excellent acoustics of this hall are obtained by a special reflectant ceiling, involving a patterning of large saucer-shaped recesses. The colour scheme of the hall is very effective. Powder-blue seats are seen against a background of a dark brown carpet, walnut woodwork, and similarly brown curtains. Higher up is the cream of the acoustic boarding and the white of the plaster ceiling.

In the long narrow restaurant on the other side of the entrance hall the walls are cream, the chairs birch with the seats a vermilion red, a colour scheme echoed in Edward Wadsworth's characteristic mural painting with its inevitable shell on the east wall. The scheme, with the continuous glazed wall to the sea, makes the restaurant exceptionally bright. A similar brightness is preserved in the lounge and library immediately above.

It is to be hoped that this pavilion, which combines the most scientific method of construction for the purposes of health, comfort, and pleasure, with a building of considerable beauty, is but the beginning. For the buildings that surround it, representing the haphazard growth of years, are a group of discords with hardly one distinctive pleasing note. It would be a happy thought if these were swept away, and the scheme, so impressively started by this new pavilion, were continued east and west for the whole front of Bexhill. Its reputation, which is with this beginning already considerable, would then make Bexhill one of the most progressive and distinguished resorts in Europe.

Whilst this pavilion was building Mendelsohn and Chermayeff were also engaged on two large projects. One was an hotel with restaurant, ball-room, and shops at Southsea, with which I will deal briefly in Chapter VIII when dealing with a project of the same kind at Blackpool. The other was an important project for developing the White City site. This

Figure 92. Block of flats, Chiswick, 1935 (sketches)



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constitutes one of the most valuable schemes of recent years for developing a section of London, and forms a noteworthy contribution to the art of town planning.

The site with which the scheme is concerned is that occupied by the old White City Exhibition, and comprises an area of approximately eighty acres. Alternative schemes were prepared. In Scheme A the northern part of the site is devoted to housing, consisting of more than two thousand flats, while the southern part is occupied by exhibition buildings. In Scheme C the whole area is devoted to flats. Both comprehend all those amenities necessary to make the whole a self-supporting unit. The architects in their report state that: 'Although the scheme was commissioned on the basis of profitable returns for private capital investment, we came to see quite clearly the unique possibilities of the site if it were developed as a whole. It constitutes, probably, the only remaining land so near the centre of London, and, situated as it is, directly connected with the main road and railway transport, of such a scale as to make possible a comprehensive example of social service in planning and construction: a self-contained new city which can be developed ideally under the existing political and economic conditions for dwellings of the artisan type, rather than adding to the mass of speculative buildings for the lower middle class.

'We do not think that such a development can be realized through private enterprise owing to its size and the consequent likelihood of the whole being split up into unrelated portions, as, for instance, the project A for Housing and Exhibitions, and, further, the almost inevitable consequence of a deferred building programme, which would immediately nullify the advantages and amenities of the site.

'The necessity of developing the scheme as one, arises not only out of consideration of the amenities and architectural possibilities, but more vitally for economic reasons. The most up-to-date and most economic construction and consequent low rentals would only be possible on a mass production basis over the whole site under one central control. Such a centralized control over the whole area would further make it possible to create a self-supporting unit with, for example, a central power-station generating its own heat and electric current, and operating its own services.'

The site is bounded by Western Avenue to the north, by Wood Lane to the east and south, and by Bloemfontein Road to the west. Two stations, Wood Lane Metropolitan and Wood Lane Tube Station occupy the south-east corner, the former being actually within the boundary of the site. At the north east corner is the existing stadium, and the scheme is kept separate from this.

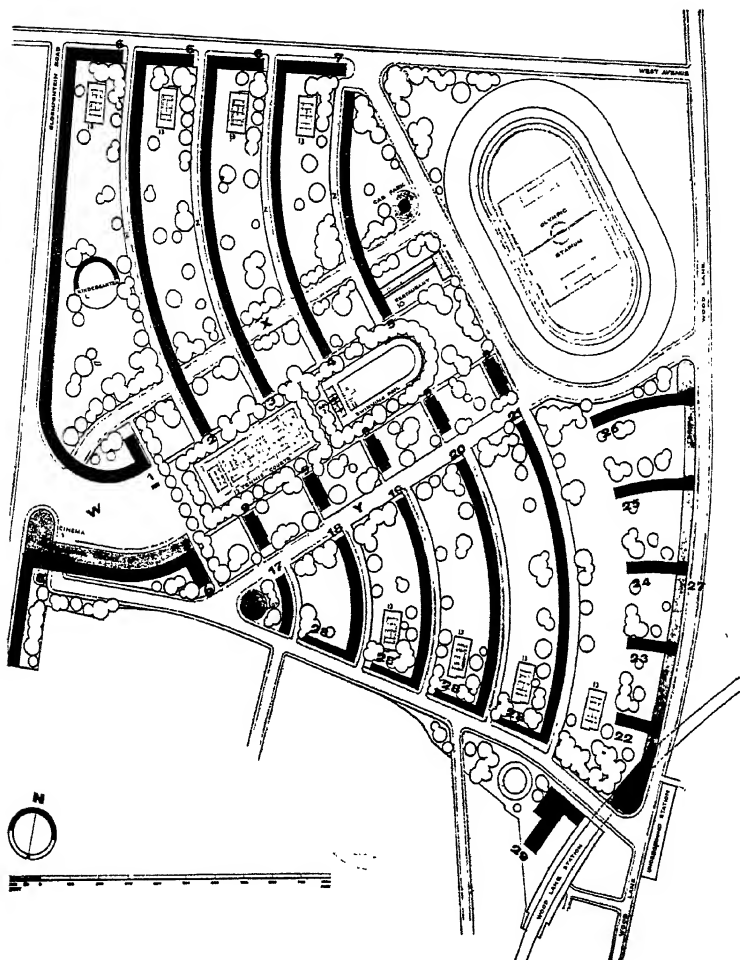


Figure 93. White City Development Scheme, 1935 (project). Plan showing an alternative scheme for the development of the whole site as a housing estate. (In partnership with Serge Chermayeff)

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The plan or axonometric view makes the whole scheme clear. Eight-story blocks of flats are planned in long lines running from Western Avenue southward, and curving towards the south-east. These blocks contain 1,964 flats of three and four rooms, with kitchen and bath. Three-story blocks with shops face Western Avenue, and opposite the termination of the eight-story blocks, on the other side of the square, are six towers of twelve stories containing 432 flats, each with two rooms, kitchen and bath. Considerable space appears between the lines of flats, and most of the trees of the old gardens are preserved. This planning in long lines with considerable space between the blocks supersedes the out-of-date building round courtyards, which invariably means loss of sunlight and daylight and other disadvantages to a large number of tenants; whereas the separation of the various blocks with wide stretches of garden and the orientation of approximately north to south of all the blocks give the greatest possible direct sunlight to all rooms, including those on the ground floor.

Stretching from Bloemfontein Road to the stadium is the public square. Entering from Bloemfontein Road there is a cinema on the right, and then extending in a sweep towards the towers is a building suitable for a large store. Further on are tennis courts and a large swimming-pool. The square commands a view of the whole vista of the dwellings, with the gardens and playgrounds between. Beyond the swimming-pool and overlooking it is a large restaurant for a thousand people.

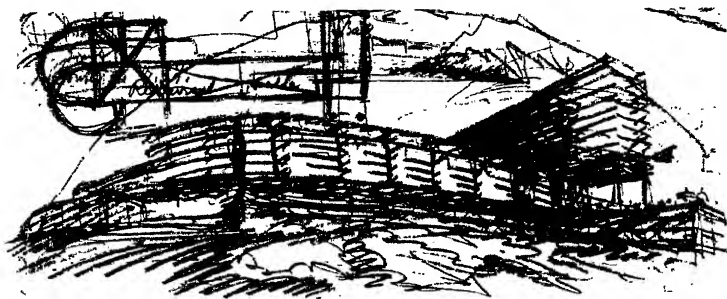
The exhibition buildings are planned on that generous scale the need of which is so often felt, but hardly ever satisfied in England since the Exhibition of 1851. These buildings would be capable of housing an exhibition on the scale of the British Industries Fair, now held at Olympia, the White City, and Castle Bromwich, Birmingham, under one roof. The halls are long separate blocks arranged parallel to and at right angles to each other, and surround a central court for open-air exhibitions. To the west of this the old Chinese garden is preserved. The large hall provides an extensive, uninterrupted space under one roof, greater than any now in London, while the long narrow blocks have four floors and are designed particularly to house exhibitions of smaller articles. The buildings can be used either for continuous open exhibition, or for subdivision into independent halls, which can be let separately for smaller exhibitions. The buildings are accessible to both passenger and motor transport from all sides, while the two stations are practically juxtaposed in the same scheme.

In the alternative Scheme C the lines of flats are continued, and curve back from the south-eastern direction to a line due south. They are

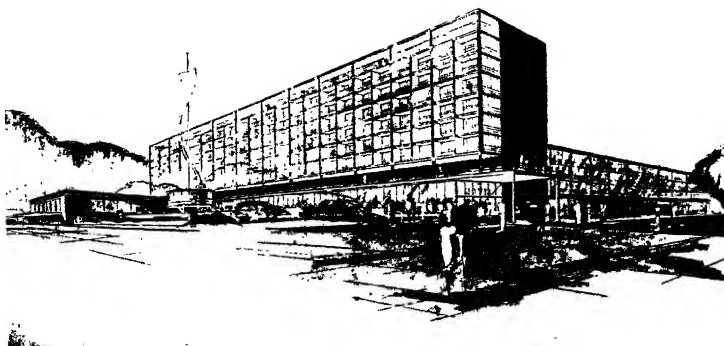


Plates 36 a, b, and c. Hotel Southsea, 1935 (project)

(a) Perspective from swimming-pool



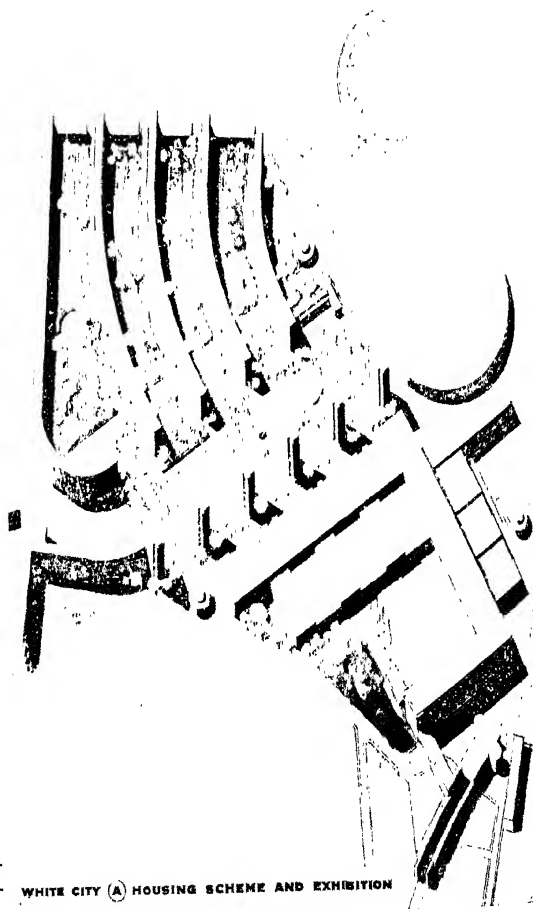
(b) Preliminary sketch



(In partnership with Serge Chermayeff)

(c) Perspective from main entrance

Plates 37 a and b. White City
Development Scheme, 1935
(project). In partnership
with Serge Chermayeff.
(a) Sketch



(b) Axonometric view,
showing housing deve-
lopment scheme with ex-
hibition

terminated with the three-story blocks with shops on the southern side in a similar manner to the blocks facing Western Avenue.

I remember that this scheme aroused considerable interest when it first became generally known to those interested in town planning. It was generally admired. F. E. Towndrow, writing of the relation of the architect to society in *Architectural Design and Construction* of April 1935, said: 'In whatever state of government we find ourselves we need the vision and altruism of the planner, we need the practical imagination of such men as those who have prepared that scheme for the White City site. Such work, in spite of obstacles and delay, can never be lost. As sure as man moves forward it will be taken up some time and will in some way influence the future.'

From a more purely aesthetic standpoint it is perhaps more difficult to value the effect of the scheme, but I think by the aid of the perspective sketches, and with a knowledge of the architects' type of work, it can be imagined. The long, tall blocks with the curves emphasized by the horizontal band of fenestration seen through the trees, which always accord so felicitously with the plain forms of the new architecture, the towers standing like sentinels between the sweep of the flats, and the lower masses of the exhibition buildings; the curve of the cinema and store buildings towards the public square, all suggest a thrilling architectural experience. And though the scheme is rich in the variety of its buildings, it has unity, each part has its place in the scheme, and expresses by its character its relation to the whole.

Mendelsohn himself replied in a lecture to any possible objections of a psychological or aesthetic kind to the scheme, such as monotony of plan, dullness of the long façades or lack of intimacy. He characterizes such objections as 'outmoded and rusty as knightly weapons used in face of tanks'. He cites comparable historical examples. 'The shopping, assembly and pleasure centre of Venice is the Piazza San Marco. Three sides of this area are contained by similar buildings having the same height and the same façades; these long horizontals are broken only by the sudden vertical line of the campanile, yet nobody, for five hundred years, has ever called the piazza boring, not intimate enough, or ugly—because of this. And the magnificent unity of Bath, with circus and crescent, subdued to the same rhythm and the artistic expression of the same architect's hand, has become one of the great examples of town planning.'

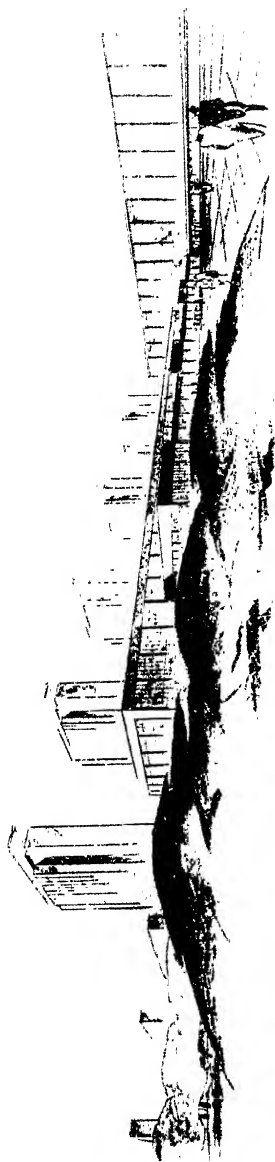
The link that Mendelsohn here suggests between the best Georgian architecture and the best of the new architecture was to find further exemplification in Church Street, Chelsea, where two houses were built

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in 1936 opposite a row of Georgian houses. One of the houses was designed by Walter Gropius and Maxwell Fry, and the other by Mendelsohn and Chermayeff. The Georgian houses belong to the second half of the eighteenth century, are of the smaller type of town house, and, though varying in size and shape, achieve a general harmony by reason of good proportions and unified spacing of windows. The two houses on the other side of the road, built in 1936, accord remarkably well. They are of brick finished with cement rendering, harmonizing therefore with the stucco of the Georgian houses. They also complete the movement towards the flat roof begun by the Georgian houses. There is considerable difference in shape and treatment between the two houses, yet again by pleasing relation of window to wall space, similarity of scale, and general excellence of proportion they accord with each other and with the Georgian houses over the way.

The rectangular plan of the house by Gropius and Fry abuts endwise on the street, and a terrace on the long side opens on the garden, which connects with that of the Mendelsohn and Chermayeff house. Roof terraces abound in the former house adjoining and open to the street. The façade to the garden from the living and dining-rooms is mainly of glass. Here is a feeling of openness to the sunlight and air, and, it must be admitted, to gazers from the street. The close proximity of the roof terraces to the street is not conducive to privacy, but as the principal terrace is designed mainly for children skipping out of the day-nursery this consideration is not, perhaps, so important. It has all the frankness and openness so characteristic of some phases of modern life, and its forms certainly express what it is. A greater degree of seclusion characterizes the Mendelsohn and Chermayeff house. It is more compact, and less open to the street. Its expansiveness is reserved for the garden elevation. Unlike the other house the sides of the rectangle are parallel with the street. The kitchen and servants' quarters face the street on the ground floor, and staircases and maids' rooms on the first floor, while dining and drawing-rooms and library face the garden, with the principal bedrooms above. The drawing-room has the favourite semicircular glass projection, echoed by the low wall, with trough for flowers, surrounding the terrace. The window line terminates with the windowless squash court arranged a little lower than the general level. Players can be seen from a spectators' gallery extending from the dining-room.

Most of the time that this house was building Mendelsohn was busily engaged in Palestine. At the end of 1936 the partnership of Mendelsohn and Chermayeff was dissolved.



Plates 38 a and b. White City Development Scheme, 1935 (project). Perspectives

(a) Scheme A, looking towards the exhibition buildings in the foreground and the towers of the flats



(b) The public square and shopping centre with cinema



Plate 39. Private residence of Professor Weizman, Rehoboth, 1936; main view

7. PALESTINE 1934-1938

Building in Palestine offers a very different problem from building in northern Europe. The difference is due, of course, to climate. It may be accepted as a general rule amongst enlightened exponents of the new architecture in Northern Europe that it is a purpose of design to let in as much sunlight as possible, whereas in Asia Minor it is the problem to keep the sunlight out. During the summer in northern Europe—in England, the low countries, northern Germany, and France—the maximum day temperature is in the region of 70° F., with a variation of not more than 20 degrees in the night temperature. In Asia Minor the maximum day temperature is from 90 to 110 degrees—often a good deal more in deep valleys—with a considerable drop, often of 50 degrees, in the night temperature. Protection from such rapidly changing extremes, from the sun and heat in the day and cold at night, is therefore a problem in building.

In Palestine, owing to the remarkable physical characteristics of the country, there are three main climates. There is the sub-tropical climate of the plains, low hills, and valleys near the Mediterranean coast, the temperate climate of the mountain ranges, with altitudes varying from 2,000 to 3,500 feet, which traverse Palestine from north to south, and the tropical climate of the Jordan valley, which sinks at the lake of Tiberias (Sea of Galilee) to 682 feet below sea level, and to 1,292 feet at the Dead Sea. Building in Palestine is concerned mainly with building near the Mediterranean and in the mountains, that is, building in sub-tropical and temperate climates.

In both, protection from the sun is an important problem, and unlike the new architecture in Northern Europe, where large glazed surfaces are employed, in Palestine the wall surfaces are larger and the windows are kept small unless there is some other protection, like cantilevered projections. Buildings are designed with the principal faces and openings to the north and south, because these faces are least affected by the sun. In the middle of the day when the sun shines on the south façade it is in summer

PALESTINE 1934-1938

almost vertically overhead and does not penetrate into the interior, but in winter the penetration of the sun is welcomed by natives and newcomers alike.

When building operations commenced on a fairly extensive scale¹ after the British Government had taken over the mandate in 1920 to protect and assist in the development of a National Home for the Jewish people in Palestine, two architectural styles appeared. One was a frank adaptation of modern European architecture without adequate consideration for the changed conditions of Palestine, and the other was an effort to perpetuate historical styles, Byzantine or Moslem. Sometimes there was a mingling of the two. It has been observed that the new architecture of Europe seems to have accorded very well with the old native architecture and flat roofs of the Near East, but this is not surprising, because the new architecture of scientific knowledge and composite materials can be adapted to any climatic conditions better than local materials and historical styles.

Mendelsohn himself, in an article on new architecture in Palestine, has made some illuminating comments on the early efforts in the nineteen-twenties in adapting the new architecture of Europe to the changed conditions of the Orient. 'Whilst in Europe', he writes, 'the best of the new architectural experiments had already produced standard works of clear planning, of constructional simplicity and of logical expression, new Palestine is flooded with inadequately understood copies of these historically conditioned first attempts at a new architecture.'

'Their architects built with cement and glass because they had neither the time nor the understanding to study the conditions of the oriental climate. They were excited, as imitators invariably are, at the new signs visible on the architectural horizon, they were anxious to join forces with the leaders of the new movement. There was the inevitable need to have roofs over the heads of the immigrants, hence quick and cheap building; but there was also the ambition to show something of their own, hence Western architectural methods; the longing to typify the new world and to be modern, hence glass. As a result there arose the Jewish city of Tel-Aviv and the bourgeois suburbs of Haifa and Jerusalem, which have grown like wild colonial vegetation without properly organized planning.'

The inevitable deduction from these well-informed comments is that

¹ I refer here mostly to the building activity within the Jewish section of the population of Palestine, and not to the Arab section, which has only recently started to contribute noteworthy buildings to the new Palestine; nor to the representative buildings of the Government, which are mostly of a very high standard.

PALESTINE 1934-1938

the rapid development of Palestine in the early years of the mandate meant, unfortunately, much hurried building, which resulted in a good deal of architecture of a low standard. Adaptation of the new architecture evolved in Europe was clearly not always in the best hands, and the effort to add traditional Arabic character was often only superficially effective. But as time went on there was a steady improvement in individual buildings, and especially in town planning. It was not, however, until the nineteen-thirties, when immigration received a fresh impetus, that the best work in Palestine was begun. This immigration meant an accelerated development of Palestine. It attracted, too, fresh capital from those, especially in America, in sympathy with Zionist aspirations. At this time, too, some fine Continental architects were leaving their native countries, and their services were available for the extended development of Palestine.

In Chapter III I referred to a few projects in Palestine on which Mendelsohn was engaged in 1923, and I mentioned that the experience gained was invaluable when, twelve years later, after he had established himself in England, he was called upon to do some important work there.

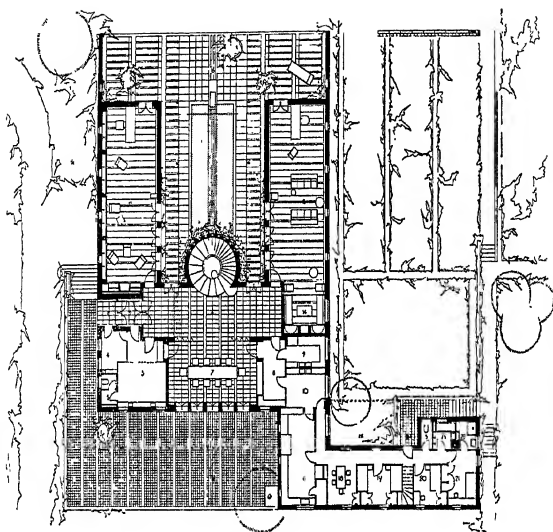
Mendelsohn's feeling for organic unity and for three-dimensional space finds, in Palestine, a strong confirmation and stimulation. In Mediterranean countries, especially in the villages untouched by civilization, one finds structures which seem to be organically united with their native soil.

In the Holy Land one experiences everywhere the animalistic, vegetative oneness of things, the instinct of true building, which, analysed, is the adaptation of the plan of a village to the swell of the hill and the erection of the corpus from the stone or clay available on the spot.

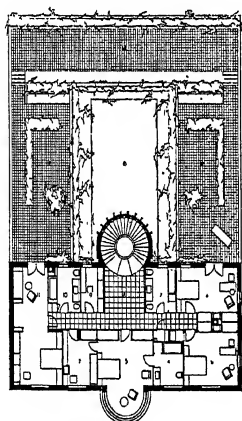
Everywhere is present that organic unity with the soil, whether it is the primitive Arab hut, or the whole formation of a village hanging on a mountainous slope, or built round a hill with the sheikh's house as its crown. The sandy dune, the fertile clay, never produce stone houses; the stony ground of the severe Judean mountains never produces clay huts.

To build in Palestine means to metamorphose the models of the past to the standard of European civilization, to include the organic consciousness of the fellah, his age-old experience with regard to the climatic conditions, into our own sense of building.

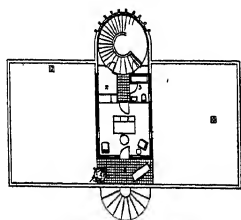
The two earliest buildings completed by Mendelsohn in Palestine were two private houses, one for Professor Chaim Weizmann at Rehoboth, a village near Tel-Aviv, and the other for Salman Schocken at Jerusalem. Dr. Weizmann's house is built on a hill in the midst of an orange planta-



GROUND FLOOR PLAN

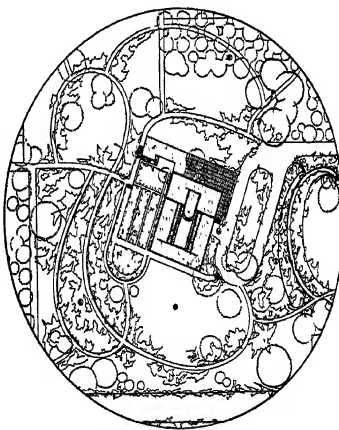


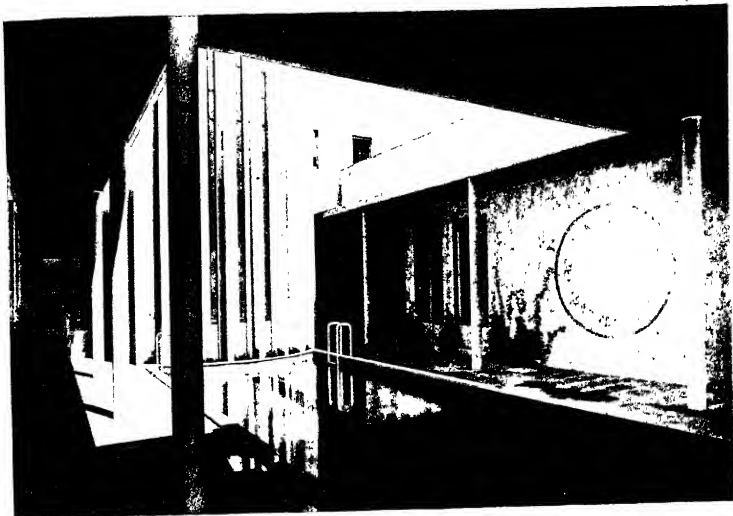
FIRST FLOOR PLAN



SECOND FLOOR PLAN

Figures 94 a, b, and c. Private residence of Professor Weizmann, Rehoboth, 1936





Plates 40 a and b. Private residence of Professor Weizmann, Rehoboth, 1936. (a) Patio



(b) Staircase

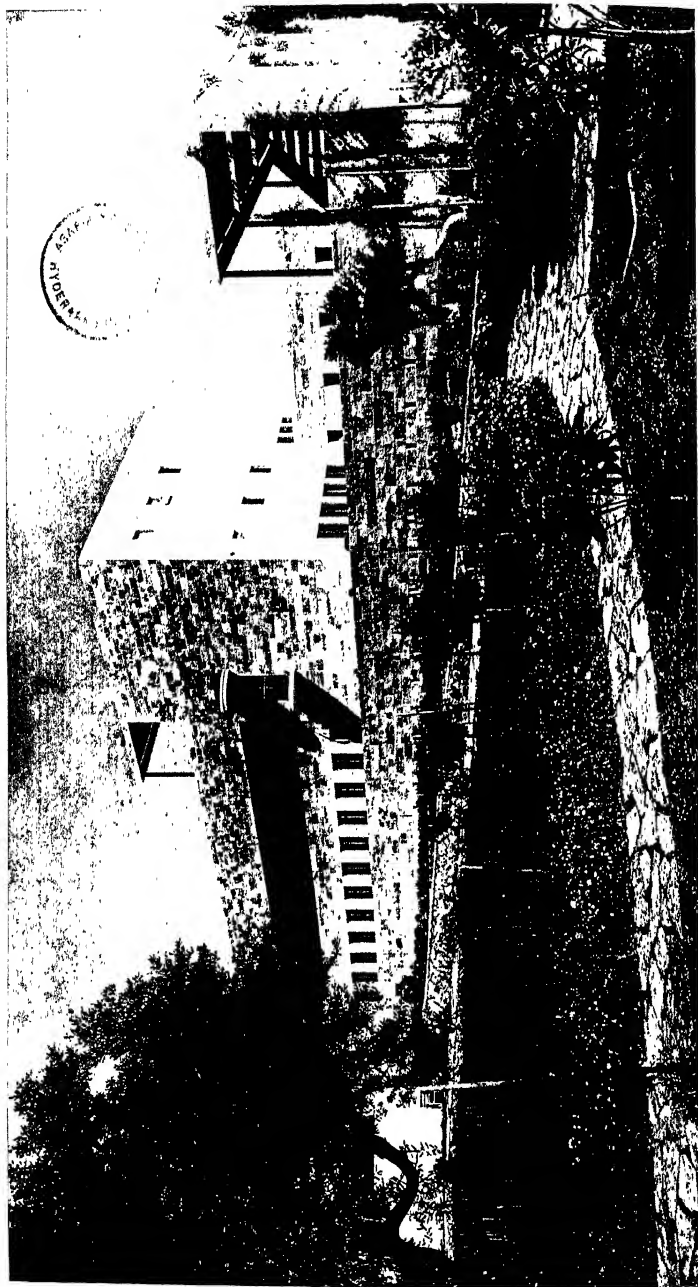


Plate 41. Private residence of Salman Schocken, Jerusalem, 1936; garden front

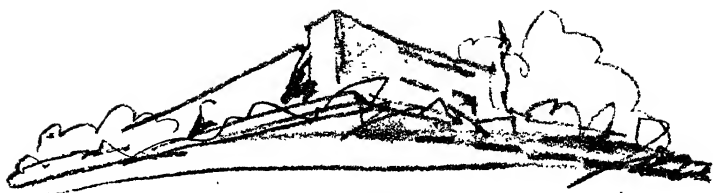
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tion, from which can be seen the Mediterranean to the west and the Judaeen mountains to the east. The house stands in grounds which were laid out by Mendelsohn. In the layout plan the pleasing arrangement of the gardens can be seen in relation to the house. In contrast to the rectangular character of the house, there is a complete absence of formality in the garden; it has in fact an entrancing half-wild character, with its winding paths, which flow, however, with a rhythmic sequence amidst the scattered irregularity of the shrubs and trees. What I think are particularly pleasing are the curved terraces of evergreen flowering bushes, perennials, olive and fig trees. To give some idea of the richness of effect possible in a Palestinian garden I should mention that the lawn is planted with poinciana regia, jacarandas, magnolias, oleanders, and cypresses.

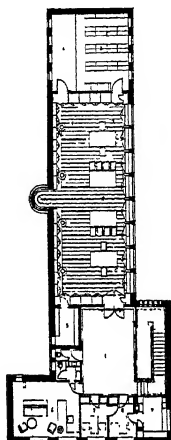
Some of the important characteristics of Mendelsohn's garden designs, which may be seen from his models and general layout plans, are the grouping of trees of varying heights around the winding paths leading to special parts like resting-places, bird sanctuaries, and pools. In so arranging them he seeks to emphasize, extend, and balance the building masses. Mendelsohn's gardens are thus inseparable parts of the whole composition and colour scheme. To neglect the exact layout or not to maintain proper relations throughout means, for him, destroying the desired effect of his central creation.

The main front of the house is symmetrically planned. In the centre is that very personal note of Mendelsohn's—the spiral staircase. Who among architects has given the spiral staircase greater prominence, or treated it with more attractive variations? This staircase adjoins the hall, and presents an exterior, fluted with long windows and intervening shafts, to a rectangular swimming-pool. The pool is surrounded by a covered patio, and flanking it on either side are the library and drawing-room. It will be seen that the space immediately above the pool is open to the sky, while the surrounding areas are covered. This composition of the fluted staircase tower, swimming-pool, and partly covered patio, so expressive of the climate, and linked in its conception with the old traditions of Palestine, is the most striking architectural effect of the building. In the first floor, opposite to the spiral staircase on the east face, is the projecting circular balcony of the owner's bedroom.

The house is constructed with a reinforced concrete frame and walls of breeze blocks thirteen inches thick, and with two layers of heat insulation material. The exterior is finished with cement rendering. The outer windows are small, while the glass doors of the library and drawing-room open to the covered patio. Referring to this house Paul Bloomfield



Figures 95 a & b. (a) Sketch for Salman Schocken's library, Jerusalem, 1936



(b) Upper floor of private library

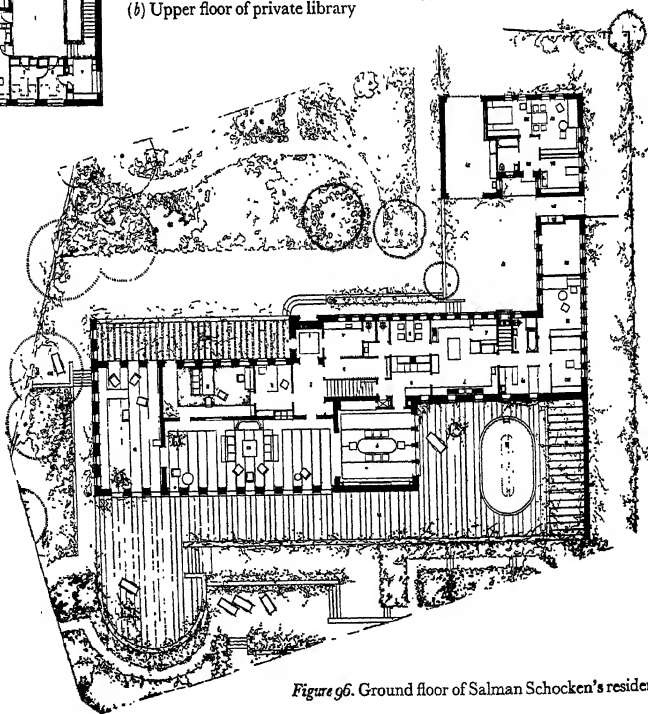
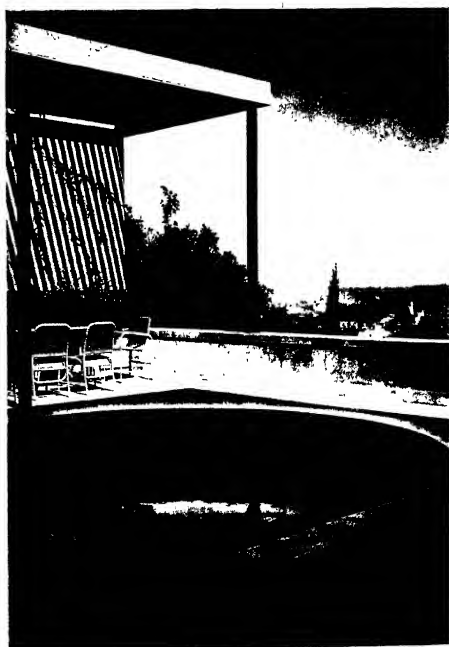


Figure 96. Ground floor of Salman Schocken's residence



*Plates 42 a and b. Private residence of
Salman Schocken, Jerusalem, 1936*
(a) Hall



(b) Patio

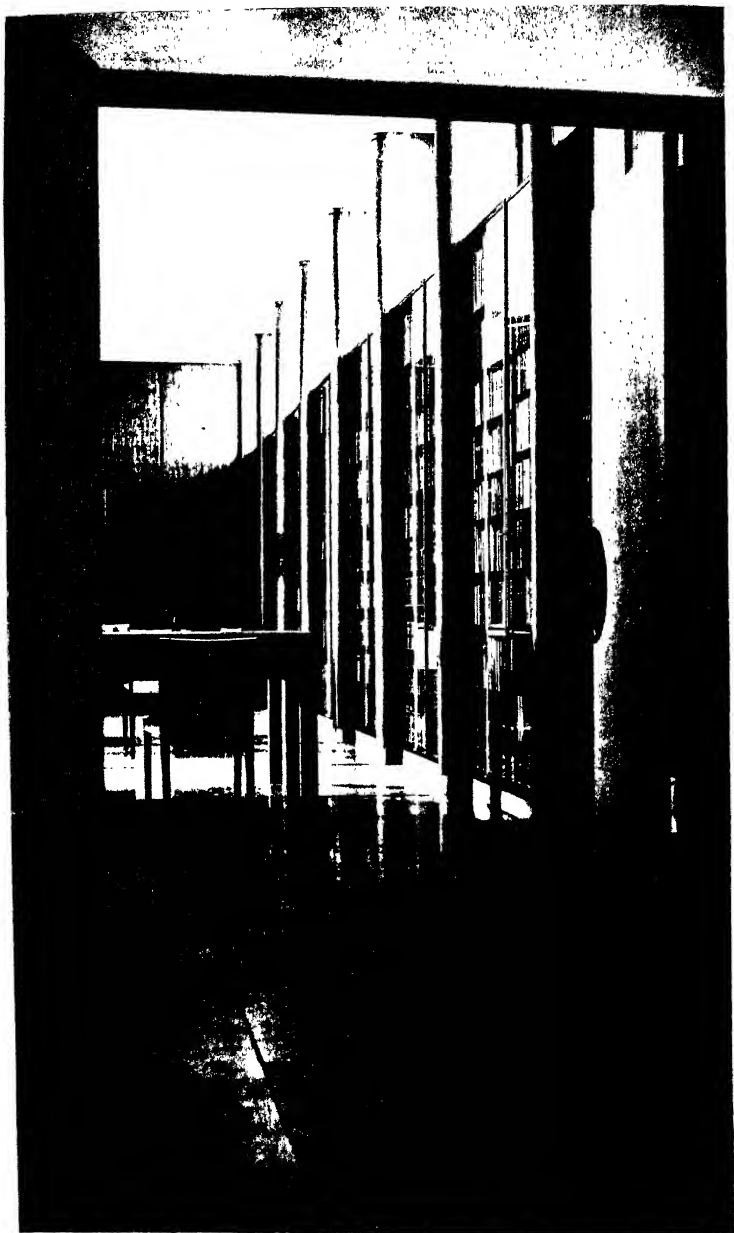


Plate 43. Private library of Salman Schocken, Jerusalem, 1936; interior of library hall

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remarked that 'an artist in concrete has rung the changes on a type of house familiar in the Mediterranean countries for many centuries'.¹

The house of Salman Schocken is situated in the new residential quarter of Jerusalem, which provides a commanding view of the Judean desert and the mountains of Moab. The house is surrounded by about two acres of terraced garden, designed in that delightful informal manner which we have noted in the grounds of Dr. Weizmann's house.

This house and that already described are noteworthy for their differences rather than for their similarities. Here the staircase is an unimportant straight flight in the centre of the block; and, instead of a covered patio surrounding a pool, there is a terrace open to the south with the inevitable projecting semicircular formation and with a small swimming-pool built into the terrace near a shelter at one end. The latter difference is due to climate. Dr. Weizmann's house is a country-house in the sub-tropical climate on a low hill near the Mediterranean, Schocken's house is a town-house in the temperate climate of the Judean mountains, with an altitude of about three thousand feet. The orientation of this house has been carefully studied. It follows the prevailing wind from the north-west, excludes the sun-rays from the east and west, and exposes the main points to the north and to the south where the vertical rays of the sun do not penetrate to the interior.

The principal rooms, namely the living-room and dining-room, open on to the south terrace, while at the windowless west end, the side of the hottest, low sun rays, is a hall which connects the north and south terraces. The first floor is occupied by the bedrooms, and has a covered south terrace, while the rooms of the greatly abbreviated second floor open to a roof garden with a shelter.

A general view of the building reveals a design of rectangular masses with a certain rhythmic sequence. Consider the view from the south. There is here definite movement from the eastern end, which leads up to the large central block, with the shelter at the top repeating that at the east end. The movement is then continued along the long mass with the horizontal emphasis of the deep loggia recess of the first floor. The rows of vertical windows below are happily proportioned to the wall space, and serve as a pleasing articulation to the horizontal movement. The building is constructed of fifteen-inch concrete walls, faced on the exterior with cream Jerusalem limestone, and with cork insulation on the interior.

In the living-room the aim has been to achieve an effect of coolness and spaciousness. The illustration will give an impression of the effect,

¹ *Journal of the Royal Society of Arts* (29 April 1938), p. 609.

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and will also show how pleasingly proportioned are the doors opening to the terrace in relation to the room. The floor is of cream coloured marble from Mount Carmel, with olive-green marble strips from Transjordan. The heating panels, necessary in the winter, are in the ceiling, while the lighting is effectively arranged from bowls projecting from the wall.

Salman Schocken's offices and library in Jerusalem, built from Mendelsohn's designs, were also completed in 1936. It is a long rectangular building abutting the street endwise, with a small projection on either side, and is constructed in the same manner as Schocken's house. The offices are on the ground floor, while the library is on the first floor, and contains the owner's famous collection of Jewish literature. The library hall, which also forms the reading-room, is the most impressive part of the interior. In the centre of the south wall is a semicircular bay window, which is the only source of sunlight. Along the north wall are arranged bookcases with bronze frames and glass doors, built in between plain uprights of polished lemon wood which extend to the ceiling, while above the bookcases are windows to let in the north light. The floor is of marble, and an idea of the dignified and impressive treatment of this interior can be obtained from the illustration.

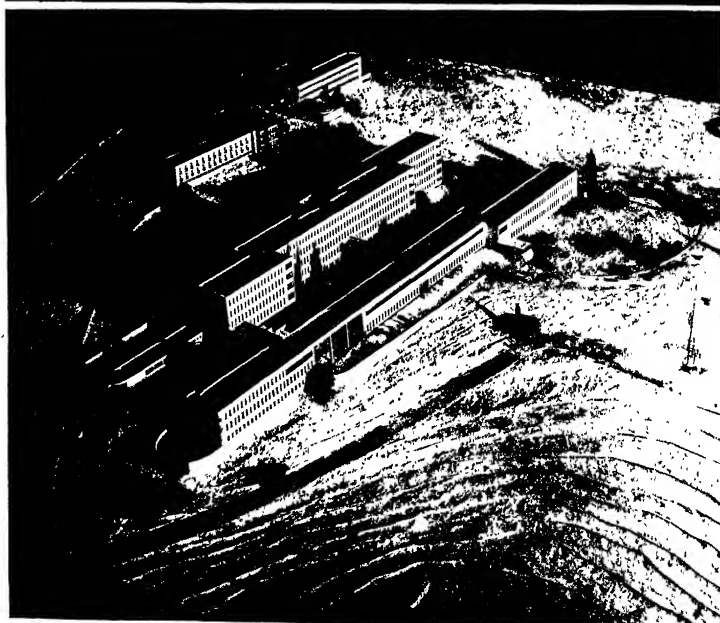
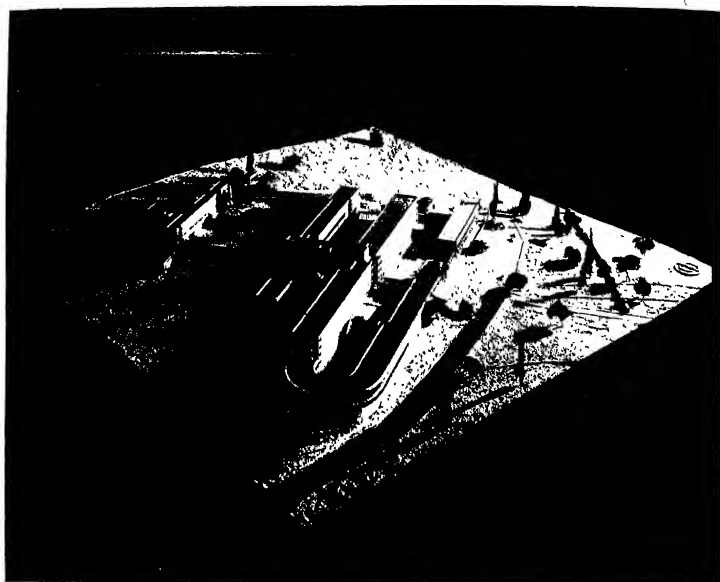
It will be noted in the interior of this building and in that of Schocken's house that the aesthetic appeal depends largely on an emphasis of verticals; the repetition, for example, of vertical rectangles placed close together. This effect appears in the series of doors of the living-room and of the dining-room in Schocken's house, and the effect is repeated in the series of bookcases in the library hall, where it is particularly impressive because of the tall lemon-wood shafts. And the staircase window of this building is a tall rectangle divided into narrow strips, which gives, when one enters the building, a majesty to this part of the interior.

To find Mendelsohn's most important work in Jerusalem one has to go to Mount Scopus, where the Hebrew University is gradually being built. It is questionable whether any university in the world has a more imposing and inspiring site. The mountain is about 2,600 feet above sea-level; to the south-west the ground slopes gently to the valley of Kidron and rises again to the old city of Jerusalem, and beyond are the hills stretching towards Bethlehem. To the east is a descent of 4,000 feet to the Jordan valley and the Dead Sea; and beyond, the mountains of Moab. It is on this spot that Titus paused and surveyed the scene before capturing Jerusalem in A.D. 70.

A Hebrew university in Palestine had long been a Zionist dream, and it must be eminently satisfying to realize this dream on so favoured a spot.

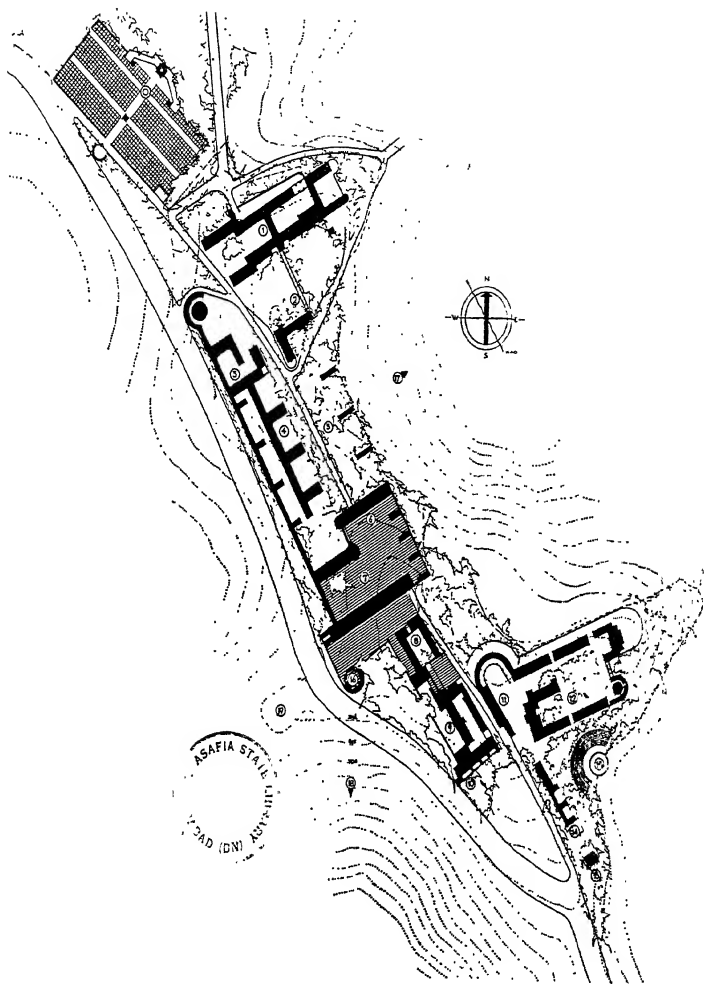


Plate 44. Hebrew University, Mount Scopus, Jerusalem, block plan, 1936 (model)



*Plates 45 a and b. Hadassah University Medical
Centre, Mount Scopus, Jerusalem, 1937*

(a) Preliminary model
(b) Final model



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Old Arabic buildings, owned by an Englishman, were all that stood on Mount Scopus before the building of the university began. In April 1925 Lord Balfour formally inaugurated the university, an open air theatre, designed like the old Greek theatres, having been constructed for the inauguration ceremony. I remember J. L. Garvin saying that Lord Balfour, when he made his speech, in a voice rare in our generation, could be heard in every part of the theatre.

The buildings that were completed, when Mendelsohn was called in, were those composing the south-east group, the Institute of Exact Sciences—Mathematics, Physics and Chemistry—and the National Library. In 1935 Mendelsohn designed a general plan; and it will be seen from the photograph of the model of his scheme that the buildings extend along the ridge with ground sloping down on all sides. The long axis of the site is 1,000 yards, and an impression given by the long low buildings of the design—in contrast to the tall centre group planned round a wide courtyard serving as an open-air meeting place—is that they seem to grow out of the site, and it can be imagined that this would be especially apparent as seen from the city of Jerusalem after the whole scheme has been completed. The building at the north-west end is that of the Hadassah University Medical Centre, which was commenced in October 1936.

This Medical Centre is the product of American enterprise, for it is sponsored by the Hadassah Medical Organization, the Women's Zionist Organization of America, and the American Jewish Physicians' Committee. It will consist of three units: (1) the Rothschild-Hadassah University Hospital; (2) the Henrietta Szold-Hadassah School of Nursing; and (3) the Nathan Ratnoff Medical School for Post-graduate Teaching and Research.

Designing this building in such a situation seems to have stirred Mendelsohn's imagination, for he made several sketches showing the blocks of the building appearing above the mountain slopes. He experimented continually with the relation of these building masses to the site, and there is no doubt that the building that is being erected is as carefully thought out from the aesthetic as from the practical standpoint. With one reservation, however. The building that is being erected follows the second comprehensive design. The first is, I think, better because more imaginative; and the reader can judge by comparing the models of the two designs shown in the illustrations. In the first design the hospital is composed of three long blocks, the two longer ones being connected at the north-east end by a grand semicircular sweep, in which are deep loggias giving dramatic emphasis. This is, of course, very characteristic of Mendelsohn,

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yet it can be imagined how well it accords with the curved terraces of the mountain slopes. Still, it was not to be, the validity of the reasons being a debatable matter. The design adopted consists of two long blocks for a hospital of five hundred beds, an administrative block and maternity section in front, and the higher block for general wards at the back. Instead of the grand sweep connecting the two Mendelsohn has to be content with a semicircular terrace projecting from the maternity section, and a still smaller curved termination to the narrow strip comprising mortuary and chapel. The appropriateness of the situation stirred Mendelsohn's imagination, for he writes in a letter that the view from this spot 'goes right down to eternity. He who dies here has but a short way to reach it'.

The Medical Centre is constructed on the principle of the reinforced concrete frame, with special earthquake precautions, and is faced with cream Jerusalem limestone arranged in long narrow panels. The design and equipment of the hospital follow the most recent improvements, always with consideration for the special conditions in Palestine. For example, instead of the large glazed areas of modern northern hospitals, the windows are small, and are narrow vertical rectangles, the glass areas being exposed to torrential rain, while the areas of sunlight penetrating the interior are thus more restricted than with horizontal openings. The old arrangement of large wards is abandoned, and small rooms with from one to five beds are designed. An extensive garden will be laid out for the benefit of the patients.

A little way from the hospital, towards the south-east, is the second unit, the Henrietta Szold-Hadassah School of Nursing, connected with the hospital by a pergola. The first floor will consist of the classrooms and reception rooms, while the second and third floors will consist of the dormitories for the pupils and graduate nurses. The ground between the Nursing School and the Hospital will be occupied by gardens, with those curved walks—planned to provide the finest views—in which Mendelsohn delights. To the west of the Nursing School, on the other side of University Road, and connecting it with the Medical Research Institute of the university is the Nathan Ratnoff Medical School. This will be a three-story building, and will contain research and instructional laboratories. Work proceeds, but often slowly, because of the unsettled atmosphere in Palestine.

Mendelsohn's other work in Palestine represents a change from the temperate climate of Jerusalem to the sub-tropical climate of the sea-coast town of Haifa. The new Government hospital there, which was

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completed in the autumn of 1938, is part of a town-planning scheme which will occupy a section of the peninsula between the breakwater of Haifa harbour and Mount Carmel, and which will be bounded by the new semicircular seashore drive. In addition to the hospital the scheme consists of blocks of flats, a seashore hotel, and the Government swimming-club. From an aeroplane flying out to sea the boundary of the site is like a parabola made by the encircling road. The hotel occupies the top of the parabola, the blocks of flats appear on the right, appearing endwise to the road and terminated by circular shops, while the hospital occupies the larger area to the left.

The site of the hospital opens on to a magnificent view of the Bay of Acre, with the mountains of Lebanon in the distance. In designing the hospital protection from the hot sunlight, ventilation and accessibility to the prevailing west wind were important objects. As I hope to show, these have been admirably realized.

The hospital consists of the main ward block, a long tall building running north-east to south-west. Adjoining this at right angles are two lower blocks, which curve slightly with the general contour of the site. The long narrow strip to the south-west houses the various hospital services, and adjoins the attendants' quarters; while the broader, shorter curved block, consisting mainly of the reception and casualty wards, and main dispensary, adjoins the out-patients' department, with X-ray department on the first floor, and operation theatres on the second floor. Three blocks at considerable distance from the routine work of the hospital to the north-east contain the doctors' and nurses' quarters, while beyond, connected by a passage-way with the main hospital, are five pavilions for infectious diseases, three of which border the sea-shore.

This hospital occupies the site of an old Carmelite Convent, containing, besides an ancient pyramid, many beautiful old trees, which Mendelsohn, in his general lay-out, has taken care to preserve. And in the gardens between the buildings, those occupying the large area north-west of the ward block being the principal, Mendelsohn has arranged for the planting of a great variety of trees, the names of many spelling romance to a gardener's thoughts. It is interesting to study Mendelsohn's garden plan with this variety of trees sketched in and imaginatively to appreciate the groupings of the different kinds. Eucalyptus, tamarisk, mimosa, palms, olive, cypress pyramidales, jacaranda, are a few he has included.

The hospital is built of reinforced concrete throughout, faced with cement rendering. The ward block, a five-story building, is designed for 250 beds. The wards face north-west, and have large horizontal windows



Plate 46. Hadassah University Medical Centre. Mount Scopus, Jerusalem, 1937

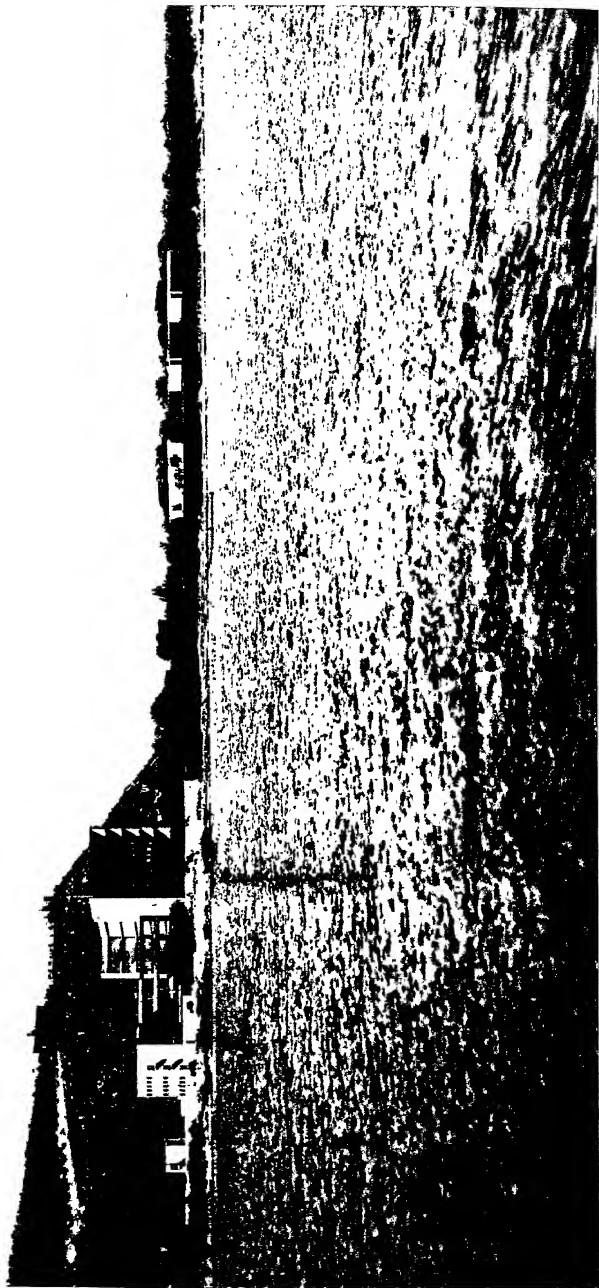
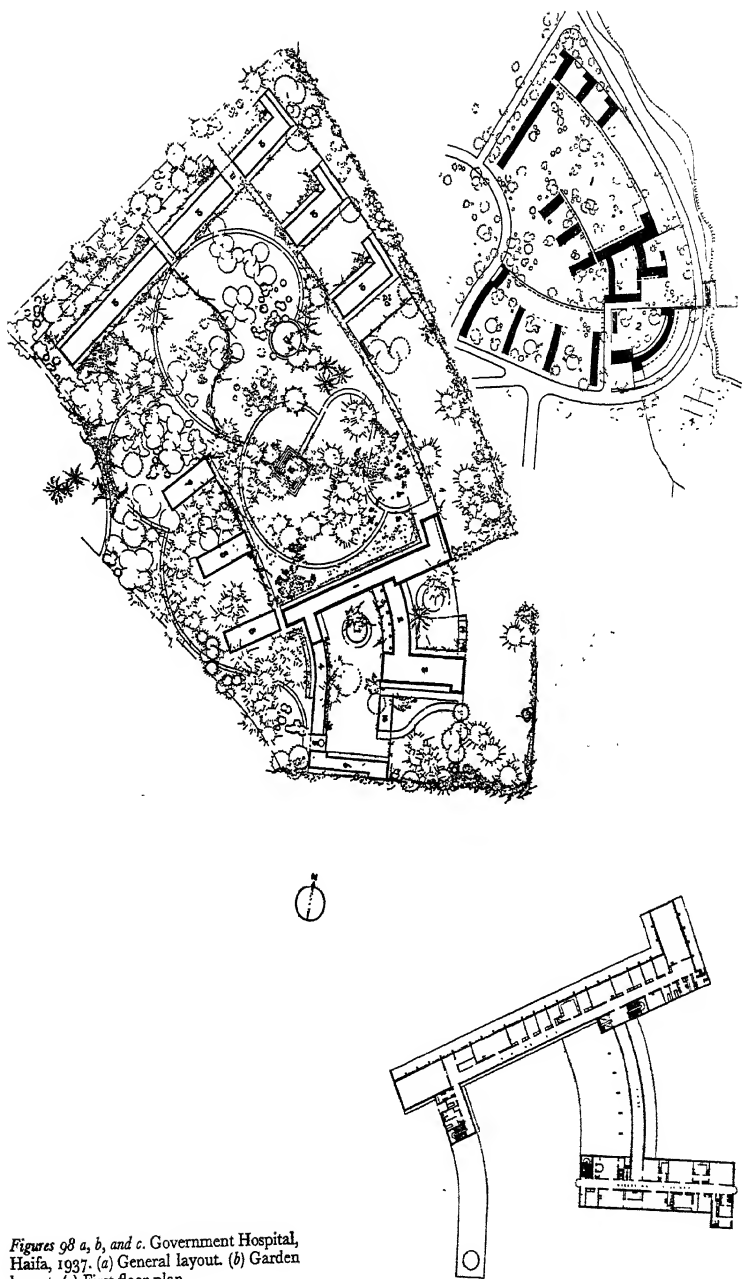


Plate 47. Government Hospital, Haifa, 1937; view from sea



Figures 98 a, b, and c. Government Hospital, Haifa, 1937. (a) General layout. (b) Garden layout. (c) First floor plan

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opening on to cantilevered balconies, which also serve as protection for the floor below. The corridors are on the south-east side with small horizontal windows, protected from the sunlight by projecting strips. Circular openings are placed over the doors of the wards, so that in the evening, after the heat of the day, the windows are opened and a stream of cool air can circulate through the wards.

It will be seen that in this ward block, both on the north-west and south-east façades, there is strong horizontal emphasis, the former with large windows and wide cantilevered balconies, the latter with small windows protected by horizontal strips. The large windows and balconies also appear on the façade facing north-east to the sea. Similar large windows appear on the north-east face of the bridge block, and the north-west face of the out-patients' department and operating theatres. It will be seen, therefore, that the main architectural effect is of horizontal emphasis, but conditioned in its character by purpose and situation in relation to climate. There are, however, attractive touches of verticality, 'the pauses in the music', as Mendelsohn calls them. One particularly felicitous view of the hospital is that at the south-west end, and the corner where it joins the low service block. On the south-east wall are the clean-cut, small, horizontal windows protected by projecting strips above, and on the south-west abutting wall the lavatory and baths windows are comparatively tiny apertures, while a long vertical grill covering the pipe duct runs the whole height of the building. Appearing at this particular point it has an impressive and dramatic effect, as will be seen from the illustration. This illustration shows also how well the old trees appear against the plain walls of the hospital.

The view from the sea affords the best general view of the hospital, and of the disposal of the various buildings. It was this aspect that especially attracted Mendelsohn, for most of the sketch designs that he made are conceptions of the group of buildings as viewed from the sea. He seems to have had in mind buildings with a horizontal character, harmonizing with the long sweep of the shore line. Here again, as in the Bexhill Pavilion, we have a building by the sea admirably suited to its position. Although both are totally different in purpose, and in different climates, yet they both by their character belong to the sea-shore.

At Jagur, east of Haifa, on a plain situated between the main road and the railway, an artisans' trade school for refugees from Germany and Austria is being erected to Mendelsohn's designs. It is to accommodate 250 boys and girls, and will consist of living quarters, classrooms and workshops, swimming-pool, and playgrounds. Characteristic of the

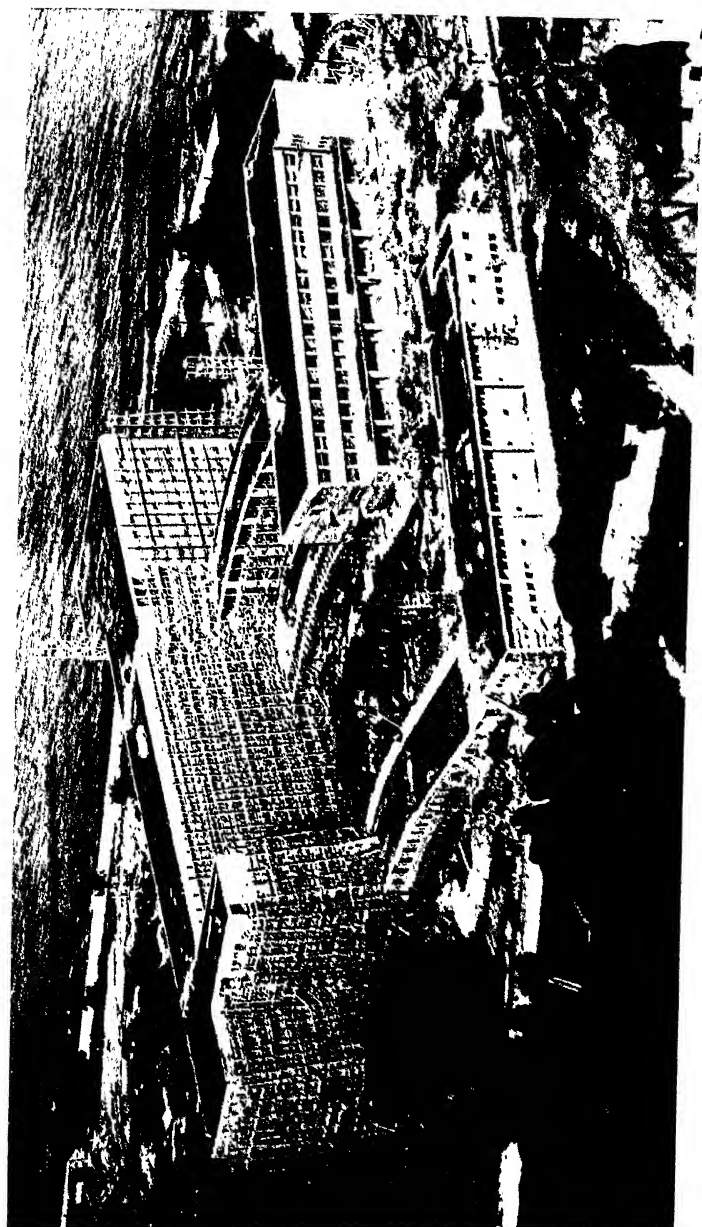
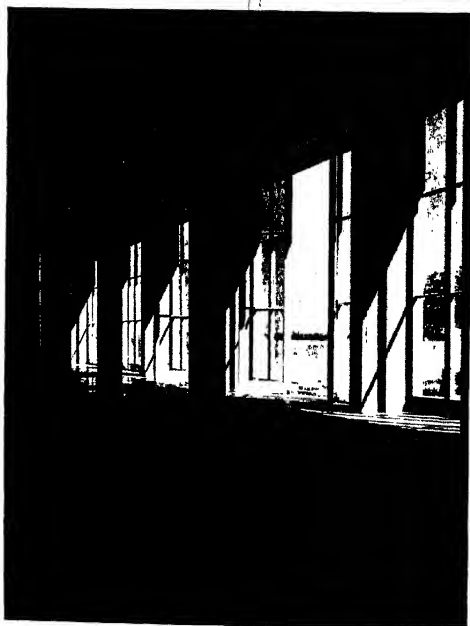


Plate 98. Government Hospital, Haifa, 1937; Aerial view

Plates 49 a and b

Government Hospital, Haifa, 1937

(a) Entrance courtyard



(b) Out-patients' waiting hall



Plates 50 a and b
Government Hospital, Haifa, 1937
(a) View from courtyard



(b) Frontage showing wards



Plate 51. Trade School, Jagur, 1937 (model)

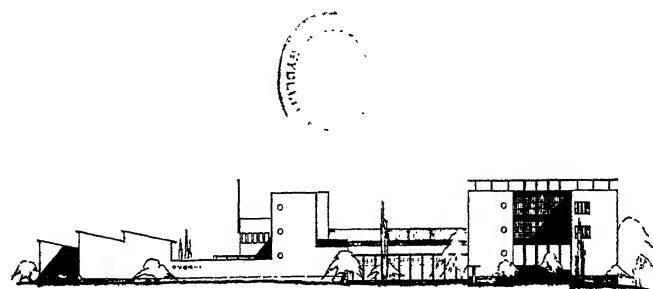
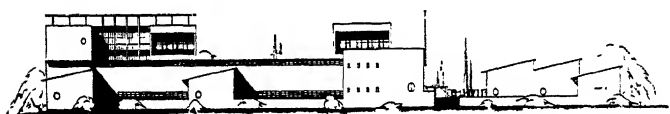
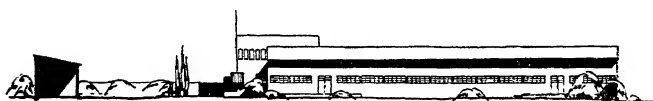


Figure 99. Trade School, Jagur, 1937 (elevations)

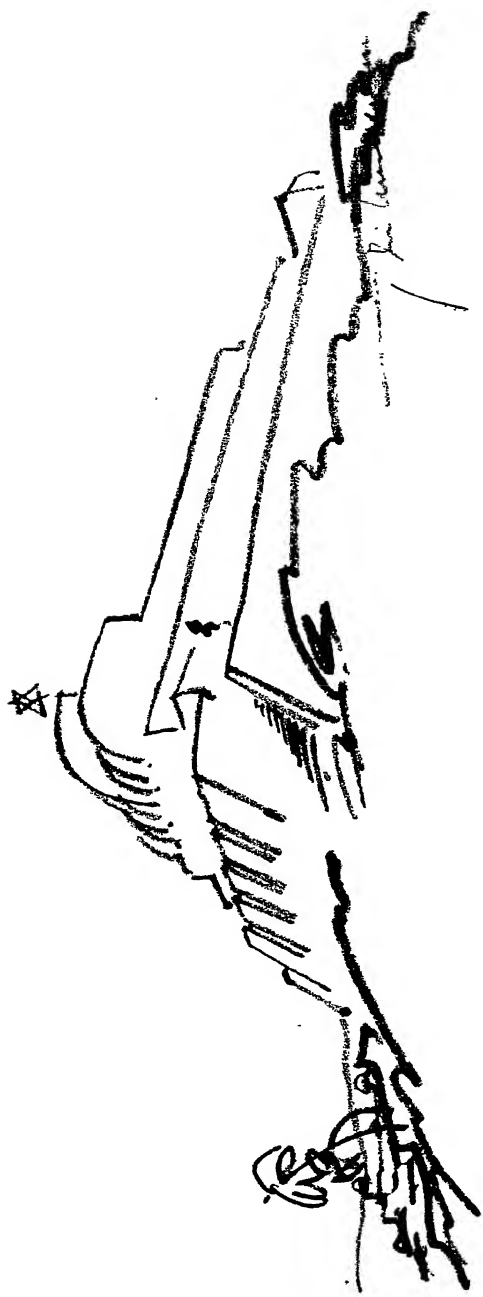


Figure 100. Sketch for a synagogue in the Judean Mountains, 1934

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scheme are the long, low blocks, built as sheds for the workshops, and a high block, with flat roofs for the living quarters, all running north-east to south-west, with the larger windows to the north-west open to the wind from the sea; to the south-east is mainly wall space.

The buildings in Palestine by Mendelsohn, of which I have given some brief notes, represent but four years' work. The excellence of the work should promise a good deal in the future. They are already a notable contribution to the building of modern Palestine. No architect is more conscious of the responsibility and sacredness of his mission in building for a future culture in this land, which has for so long been a focus-point of civilization, and which is still for Western civilization the early home of its religion. Palestine can never adequately be the National Home for the whole of Jewry; it is too small. But it will always be the centre of Jewish culture; it will always be the spiritual home of the Jews wherever they may live, as it will always be the Holy Land for the Christian. An architect, therefore, has a special obligation to past and future alike, to build well and with distinction in this historical land, and it is an obligation that Mendelsohn, with a few others, is fulfilling.

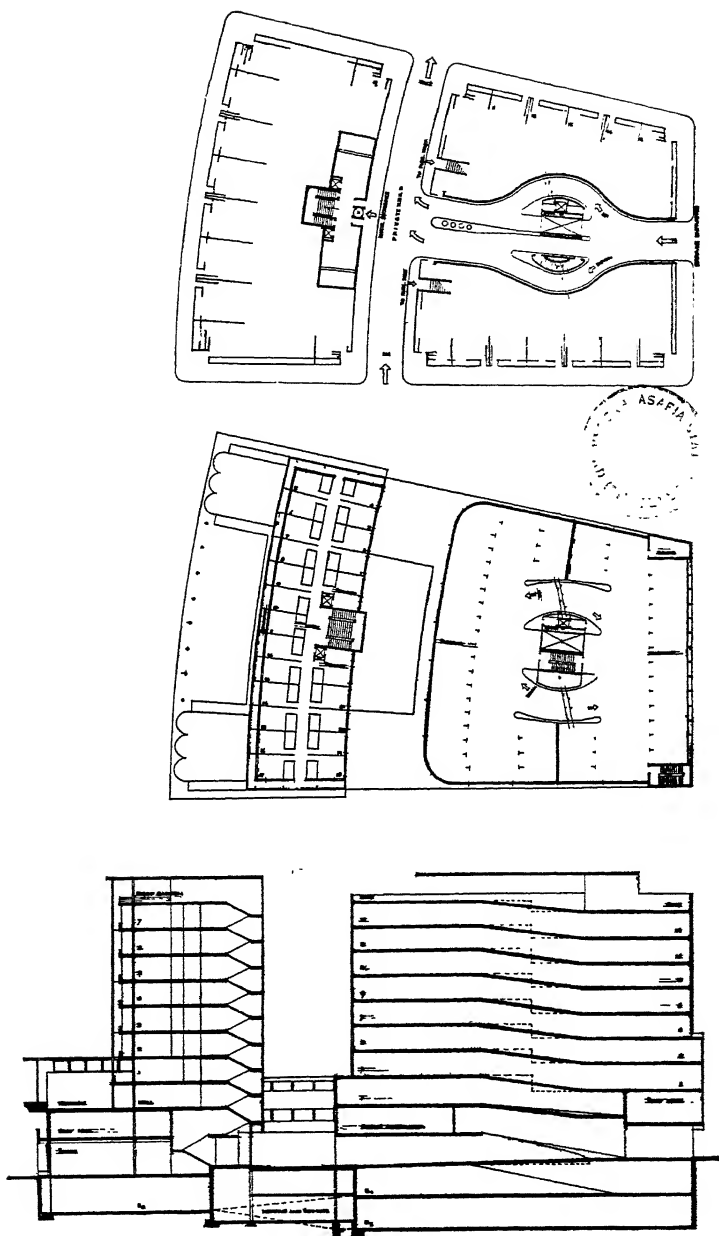
8. METHODS AND SPECULATIONS

England 1937-1939

After the dissolution of the partnership with Chermayeff, Mendelsohn moved to Berkeley Square, where he rented the attic of one of the fine old buildings now demolished, the site being now occupied by the new Air Ministry building. Later he moved to Claridge House, Davies Street. Mendelsohn has generally combined his office—the place where he works—with his home. The custom of having the place of work and home connected in the same residence used to be common among architects, and it is only during the present century that the separation of drawing-office and house has become common. But the older custom is still to be found among prominent English architects. The late Walter Tapper's drawing-office adjoined his house. I think there is a good deal to be said for it. The old custom savours more of the artist, while the new custom is more characteristic of the business man.

Mendelsohn was engaged on one very interesting project in England during 1937, namely, a large hotel, garage, and shops at Blackpool. As previously mentioned, while in partnership with Chermayeff he prepared a scheme for a large hotel at Southsea, which was composed of a number of long narrow blocks arranged at right-angles. It was essentially a design in steel and glass, with extensive glazed areas for shops and ball-rooms; while the hotel front above the ground floor was a façade of rectangular recesses forming balconies to each room, with a roof garden on the top floor. Some of the ideas of the Portsmouth scheme appear in the Blackpool project, but I think the latter is more interesting and original.

In the rectangular island site, bounded on the north and south by West Street and Church Street, and on the east and west by Corporation Street and Market Street, there are two blocks about 120 feet high. The larger block to the north forms the garage, while the block to the south forms the hotel. A private road runs between them, and is bridged in the centre. Shops surround the site, and, as will be seen from the perspective drawing, above the shops long unbroken horizontal lines seem to bind the



Figures 101 a, b, & c. Project for Blackpool, 1937. (a) Ground floor. (b) Typical floor. (c) Section

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various parts together. The garage has fifteen parking floors, all connected by a central spiral motor-way not dissimilar to that in the large garage at Olympia. But the most original and impressive part of the design is the hotel, which faces south. Above the shops is a large central terrace flanked at either end by restaurant and ball-room, each with glass walls. At the back of the terrace the upper part of the hotel rises to the impressive height of 120 feet. Balconies for each floor run the whole length of the façade, giving a uniform horizontal emphasis, while a garden occupies the top floor protected by a flat roof with a series of seven large semicircular projections. Steel rods rising from the terrace below support neon tubes for Blackpool's favoured illuminations. This idea is repeated in a smaller scale for the roofs of the two flanking features of the terrace. Judging from the drawings, this design has all the grace and lightness emanating from the efficient and logical use of glass and steel, and if it were erected I am sure it would arouse a similar interest and admiration to that accorded to the Bexhill Pavilion.

In concluding this account of Mendelsohn's buildings and designs it may be of interest to afford some notion of his method of working.

He first thoroughly studies the precise purpose of the building he is to design, taking fully into consideration all practical requirements. He visits the site. (I remember Mendelsohn expressing amazement to me that a well-known European architect had not visited the site before he designed a building.) Then, when his mind is fully cognizant of the purpose and practical requirements of the building and its relation to the site it is to occupy, he begins making perspective sketches. Not plans and elevations at first, but perspective sketches; and this is significant. Some architects begin with the plan, and leave the elevations rather to take care of themselves. Architects who believe that efficiency is all-important, and that architecture will automatically result from it, are apt to work in that way. Some architects begin with elevations, and really think of little else. Architects of traditional neo-classicism very often work in this manner. With them the dignified and symmetrical elevation must be obtained and preserved at all costs. Neither of these methods concentrates on the essentials of architectural design: the enclosing of space, and the realization of a three-dimensional mass. But by beginning with perspective sketches from all points of view the building is inevitably realized in space and as enclosing space, and all the parts can be successfully combined in a three-dimensional design. This method is no doubt one reason for Mendelsohn's success in combining the various parts of a building into a rhythmical and interrelated whole.

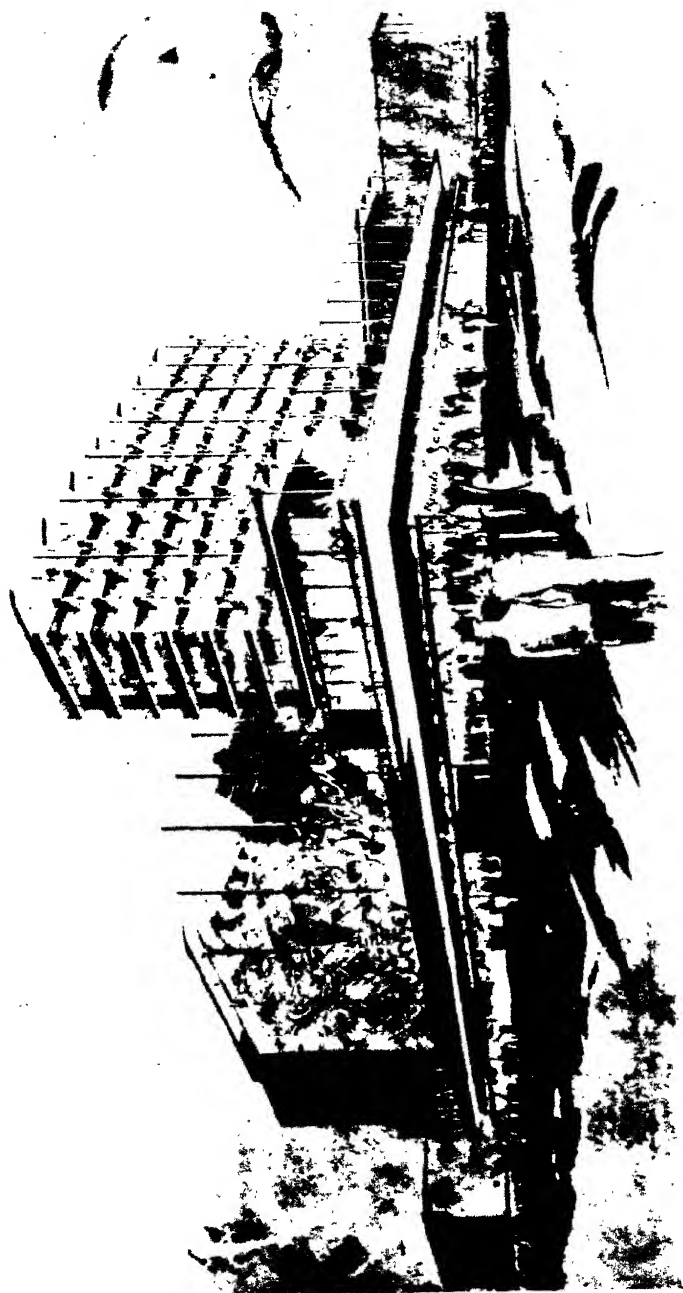
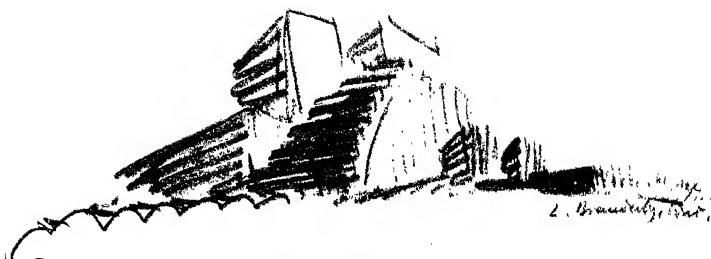
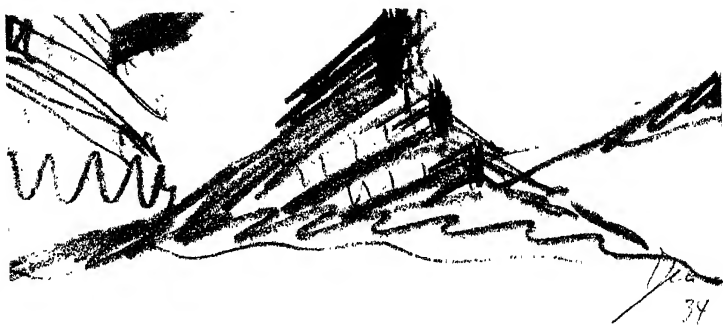


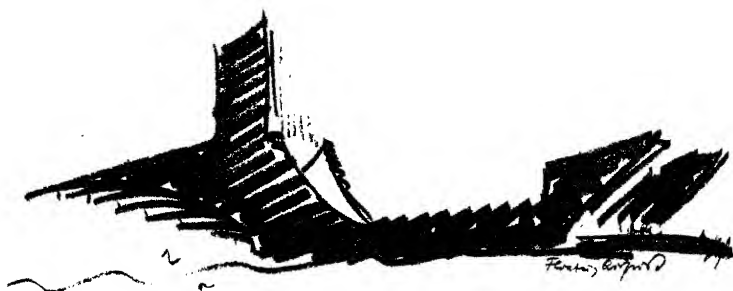
Plate 52. Project for Blackpool, 1937 garage building, hotel, and shop



(a) Industrial building



(b) Industrial building



(c) Floating aerodrome

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After the right subordination and co-ordination have been achieved in mass and plan, Mendelsohn usually finds that when the design is worked out in detail on the plans and elevations the parts fit in admirably, a result which is due to Mendelsohn's thorough study of the requirements in the first place, and his consciousness of them while making the sketches.

During 1937 Mendelsohn gave a lecture at Dublin on 'Rebuilding the World'. This lecture aroused so much attention that he afterwards repeated it at Manchester, Sheffield and Edinburgh. It contains much that is pertinent to present-day rebuilding problems, so I propose to consider it briefly.

The belief that Mendelsohn had expressed in a letter as far back as 1910, that 'a new civilization is beginning', finds an echo, in a slightly different form, in this lecture. 'We are standing', he says, 'between two worlds; between the old, which is foundering, and the new in the process of birth.' And he adds: 'The principles of the old world are not yet overcome, the laws of the new world not yet victorious.' By old world he means the immediate past—the chaos which has been produced by the enslavement of man by industrialization, where the loftiest goal seems to have been the defeat of nature at the hands of the machine, attended by exploitation of human labour for the sake of profit. The new world, which he hopes is in process of becoming, means a return to more natural ways of living, whereby the machine will become what in fact it is: a tool in the hands of men, true to the fundamental forces of nature.

With regard to our congested towns he says: 'Instead of lightening the burden of the swollen towns, by segregation of big and small industrial concerns into special industrial areas, by establishing central sales-offices close to the scene of output, by dispersing the working population in satellite towns and by establishing suitably fast-moving traffic between these and the nucleus town, the centre of administration and government, instead of this, traffic and population is ceaselessly increased by raising the height of buildings.'

Vertical extension inevitably takes him to skyscrapers and New York, and he remarks what a target this city would be to attacking bombing planes in the future. 'London, with its great waterway, the Thames, and its parks for lungs, is wider-flung. But confined enough even then, and London has the beautiful remains of its thousand-year-old traditions, the architectural crown-witnesses of national history. Yet in spite of this the building development of the post-War years seems intent on the senseless destruction of all this beauty. Nobody shrinks from subduing the individuality of the London square—those refuges dotted about the town plan—

Figure 102. Dedication, 1933

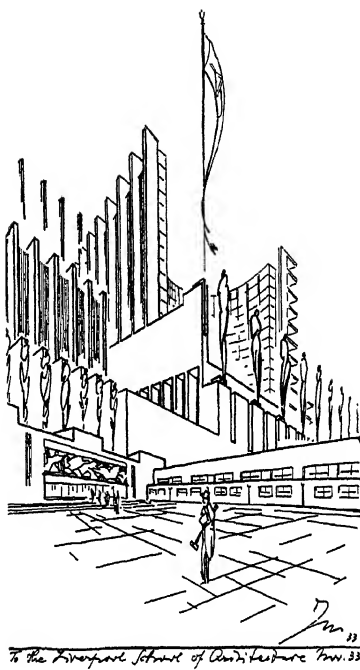
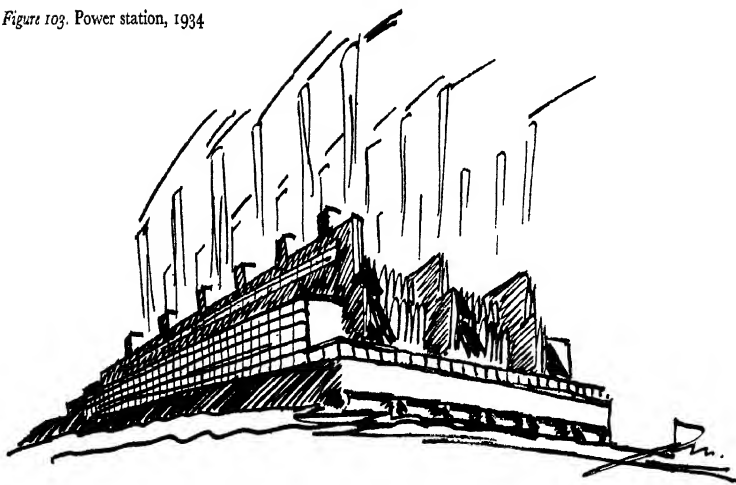


Figure 103. Power station, 1934



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with their decent proportions, their note of intimate chamber music, to the brass-band of the metropolitan racket.

'The last vestiges of the old town plan are being destroyed, with no thought for a new one. Beauty is destroyed without its ever being remembered that the most beautiful towns, even in ruins, form the greatest attractions for the world. The town is choked still more, and emergency measures are contrived, instead of the giant sums spent on these, together with all constructive energy, being turned to the problem of thinning-out the overcrowded town body.'

The last part of the lecture is devoted to examples of the architecture in the new world in process of birth, and he claims architecture now 'as the herald of a new harmonious world, a new and ordered freedom'. Factories are beginning to be designed with paramount consideration of the needs and lives of human beings. 'The factory architect has turned his back on the merely technical point of view and regards as of equal value' these human needs, so that 'interiors arise which, through the novelty of their concrete construction, take up the minimum of floor area and are rendered hygienic and effective by careful lighting and ventilation. For the worker the sweeping lines and the rhythm of stanchions with their plain surfaces are restful to his nerves and eyes.' And he continues to other examples emphasizing the value of the new architecture in almost every department of life, in offices that 'are no longer either palaces or secret dungeons'; in schools, in travel, at the seaside, in hospitals with broad terraces, in every walk of life he demonstrates how the new architecture with its light structure and glass walls brings air and sunlight, brightness and colour to our lives. The new architecture represents a radical re-orientation of the world, a decisive break with the past which inevitably is our destiny.

9. THE AESTHETIC VALUE AND SIGNIFICANCE OF MENDELSON'S WORK

The fact that many have experienced a deep and exhilarating pleasure from Mendelsohn's work is evidence that there is here aesthetic value of some kind. But I want to show of what kind, and as this demonstration is largely dependent on my ideas of architecture I will venture on an account of what I think constitute the chief aesthetic values of architecture, and then indicate how Mendelsohn's buildings accord with them.

Sir Henry Wotton's famous paraphrase of Vitruvius, that 'Well-building hath three conditions: Commodity, Firmness and Delight', appears to comprehend the whole of building and architectural practice. But as Geoffrey Scott points out,¹ these requirements of good building should be kept separate in the mind, and should not be confused as they have so often been in architectural criticism. Commodity is the suitability of the building for its purpose, Firmness is its constructional efficiency, and Delight is the aesthetic pleasure it affords. These three qualities are different, they are clearly separable in the mind, although they may be interdependent. It is obvious that a good modern efficient building must satisfy the first two conditions of Commodity and Firmness, but it is not architecture in the sense of an art until it has Delight. This alone of the three qualities is responsible for architecture conceived as an art. I have endeavoured to show how well suited to their purpose are Mendelsohn's buildings, thus having Commodity; how efficiently constructed, thus having Firmness; and I have hinted now and then at the Delight they afford, but as their claim to rank as architecture depends on this delight, or, in other words, aesthetic pleasure, it is the reason for a more thorough examination of this essential of architecture.

Some have contended that architecture includes the solution of certain practical problems of building. Howard Robertson says, in his book *Architecture Explained*, that 'architecture arises from the human desire to

¹ *The Architecture of Humanism* (London, 1914), pp. 1 sqq.

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meet certain definite practical problems'. If we are to regard architecture strictly as a fine art, to be considered with her sister arts of painting, sculpture, poetry, and music, then all practical values, in the utilitarian sense, are irrelevant. The solution of a practical problem may improve a building considerably, but it is not in itself pertinent to aesthetic interest, and by it one does not, volitionally, produce architecture, but rather good efficient building. Art, of which architecture is one expression, exists, after all, only as something that arouses a particular emotion that we call aesthetic. Architecture then may be vaguely defined as building that has aesthetic interest. This leads to the fundamental question: In what does the aesthetic interest of building consist?

The investigation of instinctive tendency, and the part it plays in the determination of our civilized lives, has been one of the most valuable and illuminating studies of modern times; and it is by relating the aesthetic interest of building to instinctive tendency that we obtain one means of understanding better the art of architecture. Certain primal forces have been observed common to man and the higher animals, and these have been classified for convenience as definite instincts. How many separate classifications of instincts may reasonably be made is often the occasion of dispute, and though of small importance compared with the general recognition of universal instinctive tendencies, such classifications assist considerably in helping us to understand the nature and significance of instinctive activity.

Some psychologists, like W. H. R. Rivers¹ and J. T. MacCurdy,² would comprehend all instinctive activity under the three heads of the biological classification, namely the instincts of self-preservation, of sex, and of gregariousness. William McDougall,³ on the other hand, has developed what is now widely recognized as a very serviceable social system of fourteen instincts with their accompanying emotions. What is of importance to our study of architecture and instinct in his classifications is that he includes an instinct of construction. Samuel Alexander in his Herbert Spencer lecture of 1927 on 'Art and Instinct' also recognizes a definite instinct to construct. Though the biological school of psychologists would perhaps deny that construction is a separate instinct, regarding it rather as a subsidiary impulse serving the great instincts, none would deny that it is an integral part of instinctive tendency. It may be

¹ *Instinct and the Unconscious* (Cambridge, 1920).

² *Problems of Dynamic Psychology* (New York and Cambridge, 1923).

³ *An Introduction to Social Psychology* (London, 1936) and *An Outline of Psychology* (London, 1928).

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observed in the nest-building of birds, of bees and wasps, in the building of beavers, and more generally in the structural arrangements of the homes that animals burrow in the ground, which are not dissimilar to the early cave-building of man. Now the animal, as far as we can judge, is compelled by instinct so to build, an instinct which appears to act with the fundamental biological instincts, but particularly does it seem to act with the parental instinct which is so important in McDougall's system. The essential fact is that the animal builds thus as a law of its being. As far as we are aware, the animal, acting from blind instinct, never reflects on its construction or contemplates it for its own sake, but just constructs its home with the same inevitability as it seeks for food or the female protects its young. It is a psychological inference that man had the same blind instinct to construct.

Although there is thus an instinctive tendency to construct, it would seem that there is no comparable aesthetic instinct present in animals or man. There is no evidence of a sense of the beautiful or of an instinct to create the beautiful for its own sake as there is an instinct to construct. It may be objected that the fur of some animals, or the plumage or song of some birds, in the response that it evokes, denotes a sense of, and impulse towards, the beautiful. But the fur, plumage, or song is more satisfactorily explained by other reasons. The plumage of the male birds evolves, according to Darwin,¹ by sexual selection; that is, by the consistent selection of the brightest coloured males by the females; the colours, in the course of generations of such selections, increasing and becoming richer. The evolution of bright plumage, then, depends on the pleasure it gives the females. Thus, a female is not apparently pleased with the colouring of a male bird for the beauty of the colour or sequence of colours, but she is so pleased because the colours constitute a sex appeal, which is a different matter. And the same with the song of birds.

The same may be said of the display of other animals at mating time—the horse prancing with muscles innervated and with head and tail erect, and of those animals that are gifted with organs of display. It is insufficient to argue in support of an aesthetic instinct that this display does not always occur at mating time, for self-display or self-assertion is very convincingly included by McDougall as a separate instinct. Self-assertion is obviously a very powerful instinctive tendency in both man and animals, and though greatly involved during the activities of the sex instinct, it is obviously responsible for display at other times. The aesthetic feeling, which is relatively disinterested, belongs to a higher plane of life than is

¹ *Descent of Man* (2nd Ed., London, 1888).

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found in the primal activities of the instincts. It is unnecessary to stress further the absence of any aesthetic instinct, for neither psychologists nor philosophers have for long entertained the notion. How then does the aesthetic emotion arise?

From psycho-analysis emanates the well-known theory that art arises from repression, mainly, but not exclusively sexual. Social life represses instinctive sexual urges, and a substitute is found in art and fantasy. Art, according to this theory, also arises from the conflict between the instinctive urges deeply rooted in the unconscious, and the ego—the current standard of conduct—or the super-ego—the ideas of right and wrong instilled in childhood. The conflict finds an antidote in wish-fulfilment by means of fantasy and dreams, which are the subjects of romantic art; or the burden of conflict is relieved by purgation in the sense of Aristotle's famous theory of catharsis. These are no doubt important reasons for human productions which may, by excellence of form or execution, become art, but these productions become art only by means of the beauty of their forms and not because of their motive. Substitution of sexual gratification and conflict are sources of the subjects of art, but not of art itself.

But in another way aesthetic feeling may develop from the sex instinct, a view that has also been tentatively suggested by McDougall. The self-display of animals at mating time, and similarly, in human courtship, the appearing at one's best, the dance and song, poetry and love letters are activities in the service of the sex instinct. To one with aesthetic feeling they often result in artistic productions, yet they are not produced for their beauty nor for the pleasure they give in themselves, but to assist in obtaining the object of the sex impulse. They are merely utilitarian. McDougall suggests, however, that what is a means may become after long use pleasurable in itself, and is ultimately pursued as an end. This emergence from sexual activity is doubtless one of the origins of artistic creation, chiefly of poetry and music, but not, I feel, the most important. The approach to the aesthetic emotion by way of the constructive instinct (which serves primarily the instinct of self-preservation) rather than by way of the sex instinct, will, I suggest, bring us a little closer to the essential nature of art.

Construction in animals and in earliest types of man is, we may assume, of an entirely instinctive character. But man arrives at a stage in the development of his intelligence when he regards his construction, not as something that satisfies a practical purpose, but disinterestedly, purely as a piece of construction. He contemplates the construction for its own sake, for a brief subconscious moment at first, perhaps, and it gives him

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pleasure. Not with the pleasure that property gives, nor with the elation of display, nor with the pride of accomplishment, but with an unalloyed, wholly disinterested pleasure in the construction. The first evidence of this pleasure would be when a man begins to give his structures a shape not wholly determined by necessity, but with forms calculated to please the sight, which must not be confused with the decorations made for mere display. When such pleasure in the structure was first subconsciously felt, that probably was the first aesthetic emotion.

It will thus be seen that, according to such a theory, the aesthetic emotion arises directly from the constructive instinct. And it is logical reasoning from this that, when delight in construction became a recognized value in life, the fine arts arose. Although our main concern is with architecture, it would be possible to show how the delight in construction is the essence of the aesthetic interest in all the arts. It must suffice, however, to demonstrate that the analogy of the other arts tends to confirm the theory and to render clearer its truths in regard to architecture.

To think of architecture by reference to music, a habit of thought much inspired by Schelling's phrase 'frozen music', Goethe's phrase 'petrified music', and Lotze's classification of architecture and music as the two abstract arts, has probably tended to obscure the essentials of these arts. For to endeavour to understand the art of architecture by way of music is rather putting the cart before the horse. It is true that they are both abstract inasmuch as they do not depend on natural phenomena for their subjects, but on abstract relations of sounds in the one case and of plastic forms in the other. The design of these relations, however, is but an evolution from the delight in construction. They are constructions, in fact, divorced from practical purpose, for construction is but putting things together; and art arises from the pure delight in the effect of this for its own sake. It can be seen most clearly in architecture where the calculated artistic relations of forms and shapes—of solids to spaces, of lights to shadows, and of broken to smooth surfaces—arise directly from the conscious delight in construction, so that it is an additional thought in building to arouse delight in the particular way of putting things together. The relation of sounds in music, of forms and colours in painting, are but a development of this. They are not now, in their present stage of evolution, so closely connected with practical purpose, yet painting and sculpture in their original functions were architectural arts and contributed to the delight aroused by the construction of buildings.

The particular relation of the aesthetic interest of a building to its more practical purpose may be best understood by reference to the

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distinction between ordinary efficient writing and literature. What is it that makes some writing literature and other writing mere craft? It may be the utilitarian purpose to record incidents, or expound a scientific theory, or the purpose to amuse with a story, and, though the writing be perfect grammatically, it may not be literature. Some have called the difference style, and said that style is personality, but such explanations are loose and vague. The whole difference is that one manner of writing gives pleasure by its construction, while the other does not. It is the delight given by the construction of phrases, sentences, paragraphs, and the whole ensemble that makes literature. Gibbon wrote a history that affords some of the most pleasurable reading in the language, yet few would maintain that the pleasure afforded by the subject is comparable with that afforded by Gibbon's grand and impressive construction. When Shakespeare makes Hamlet say:

*Absent thee from felicity awhile,
And in this harsh world draw thy breath in pain,
To tell my story,*

it is, to some extent, the choice of words to fit the thought (and words are themselves constructions that sometimes give delight), but more the beautiful construction given to the expression of the thought, that gives an aesthetic pleasure. To say: 'Keep from happiness until you have told what happened to me,' is to employ approximately the same subject, but the sentence is not literature. A large proportion of writing and most building serve a utilitarian purpose, and the one becomes literature as the other becomes architecture by reason of the pleasure that construction in each gives.

So far we have merely advanced to the stage that construction, the putting of things together, or formal relations, to use Roger Fry's phrase, is the basis of aesthetic pleasure. We have still to determine the kind of construction necessary to arouse aesthetic pleasure, for it must be obvious that one construction fails to move us at all, while another moves us deeply. The construction must be actuated by some kind of feeling which gives it character. There is no doubt about the feeling in Hamlet's dying speech, and the feeling of the finest poetry and music gives poignancy to their constructions. But again emotions are numerous and varied, and every work of art contains many.

The emotional content necessary for every construction if it is to be a work of art is unity, or order. Why? Because we feel secure with order, and insecure with disorder and chaos. Order satisfies the fundamental instinct of self-preservation, while disorder disturbs it. Thus a construction like the

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Parthenon expressing a fine sense of order gives considerable pleasure; but a construction that gives the feeling that it is put together without design, in a haphazard fashion, or where the parts do not show their relation to other parts or to the whole, of which there are numerous examples in London, gives a sense of uneasiness. Again we have to ask: Why is it that we feel, when the parts are so related to each other and to the whole, that they suggest the idea of order or unity? I have contended that it is because they produce feelings of ease and security, while the lack of unity produces uneasiness and insecurity. But why should two different constructions, two different buildings produce these different feelings? It is not enough to say that in the one building the parts are so related as to give a sense of order and unity, each part suggesting its relationship to the whole, while the other building fails to do this. It may be replied that each part repeats the contour found in other parts and in the whole, as in the nave of a cathedral. We are thus led on to the general principles of design, repetition, subordination, concentration, rhythmic sequence and so on. But again, from what source do these principles of order and unity come? From whence do we derive our ideas of order and unity? The answer is from ourselves, from our own physical beings, and from the world of nature of which we are a part.

When a baby first perceives the world about him he sees a blurred and flat mosaic. Later he stretches out his arms, kicks his legs, and extends himself in space, and he continues to do this more and more. His first and most intense consciousness is of his own body and its senses, and of its relations to the space and objects about him. The only inner life which he knows from direct experience is that of his own being. It thus becomes the standard by which he judges all things. He confers upon the world of nature his own emotions and feelings. His lungs expand to the fresh morning air, and he delights in the tree branches seemingly expanding to the sunlight and air around. He expands in the light and air like the flower, and is constricted by darkness. The law of gravity he perceives everywhere in nature, but the feelings he gives to the phenomena of gravitation are his own bodily feelings.

We are the product of the same life force as the world about us. We live by the sun and air as all forms of life on this planet. The organisation of our bodies follows similar principles to that of the organisms about us. The feeling of organic life we experience in our bodies. The conditions of that organic life, each part performing its function and contributing to the well-being of the whole, is something we instinctively feel, something which we confer on the world about us. This identity of ourselves with the



Mrs. Luise Mendelsohn, 1925

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surrounding world seems to have been an innate impulse from primitive times. It is the cause of the anthropomorphizing tendency of early religions, and it is the ultimate origin of the whole of Greek mythology. It finds an expression in the Pantheism of Spinoza, and of the Romantic poets like Wordsworth. Further, the projection of the feelings arising from our own organic structure to the life around receives a certain validity from impersonal scientific investigation, where emotional identity is corroborated by actual structural likenesses, developments, and sequences throughout the world of natural phenomena, thus giving some force to the objectification of these emotions. It is well known that Goethe believed in the oneness of this emotional identity and scientific theory.

Now we not only confer this feeling of the character of organic life upon natural objects, but upon objects made by man. It is the guiding principle of our creations if we are true to our natural organic lives. Thus we may say that buildings either afford pleasure or not, according to the extent to which they reproduce the feelings of our own organic life. The conditions of unity, of strength and weakness, ideas of movement, the exhilarating pleasure in space are all dependent on our physical being.

This theory, which I believe to be the chief explanation of aesthetic delight in architecture and the other arts, has been known for many years among philosophers in Germany as the theory of *Einfühlung* (literally, one feeling), elucidated by Knaur as the transposition of one's own feeling into other persons, animals, and objects of art. The chief exponents of this theory are Lipps¹ and Volkelt.² In Germany it has received more support during the present century than any other aesthetic theory. It is also, by now, fairly well known in England, the term 'empathy' having been coined to express it. The cradle of the English school was the English-American colony in Italy, where Bernhard Berensen,³ Vernon Lee,⁴ and Geoffrey Scott⁵ often worked in association. In addition, Lord Listowel⁶ has made a valuable survey and critical analysis of the theory of *Einfühlung*, which he regards as the most important of all modern aesthetic theories. 'We have found', he writes, 'in the theory of *Einfühlung*, more especially as it is propounded by Volkelt and Lipps, the profoundest interpretation of the delicate mental phenomena operative in the wide sphere of the beautiful.'

¹ T. Lipps, principally *Ästhetik* (Hamburg and Leipzig, 1903).

² J. Volkelt, principally *System der Ästhetik* (München, 1927).

³ Berensen applies these ideas chiefly to the painting of Florence and central Italy in *The Italian Painters of the Renaissance* (London, 1930).

⁴ In *Beauty and Ugliness, and Other Studies in Psychological Aesthetics* (London, 1912).

⁵ Chapter on 'Humanist Values' in *Architecture of Humanism* (1914).

⁶ *A Critical History of Modern Aesthetics* (London, 1933), pp. 51-82 and 169-192.

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The theory has been most fully applied to architecture by Lipps and Geoffrey Scott. The former points out that in our aesthetic enjoyment of a building our bodies subconsciously respond to the architectural forms; we stretch upwards or press firmly downwards, we expand or contract ourselves. Geoffrey Scott mentions that in common speech we say that 'arches spring, vistas stretch, domes swell, Greek temples are calm and Baroque façades restless'. And Vernon Lee speaks of lines having 'thrust, resistance, strain, feeling, intention and character'. To the objection that these are mere metaphors of speech, Scott replies that they are none the less descriptive of our feelings.

But a difficulty arises in Scott's application of the theory of *Einfühlung* to architecture, a difficulty which we must solve before we can accept the validity of the theory as an explanation of the principal aesthetic delight in architecture. When Scott wrote in 1914 he had in mind chiefly Renaissance architecture, and he did not take into account the architecture of steel, concrete, and glass; and he advances an argument which makes it difficult to apply the theory, as he interprets it, to the New Architecture. He contends that 'Architecture selects for emphasis those suggestions of pressure and resistance which most clearly answer to, and can most vividly awaken, our own remembrance of physical security and strength. In the unhumanized world of natural forms, this standard of our body is on all hands contradicted. Not only are we surrounded by objects often weak and uncompacted, but also by objects which, being strong, are yet not strong in our own way, and thus incapable of raising in ourselves an echo of their strength. Nature, like the science of the engineer, requires from objects such security and power as shall in fact be necessary to each; but art required from them a security and power which shall resemble and confirm our own.'¹

I believe this passage to be gravely in error, and to betray an insufficiently comprehensive understanding of the theory of *Einfühlung*. He speaks of the 'unhumanized world of natural forms'; but in the pantheistic identity of the self with the surrounding world there can be no such thing as the unhumanized world of natural forms, for all is humanized. Again, is the standard of our body contradicted? If so, where? In the animal world it is very simply confirmed, and in the vegetable world the forms are different, yet do we ever feel that the standard of our body is contradicted? We look at a spreading oak tree, yet we do not feel in its tensile growth any contradiction of our bodily feelings. The explanation is, I think, one of association. I believe with Lipps and Volkelt that the identi-

¹ *Architecture of Humanism*, p. 231.

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fication of human feelings with the objects and forces surrounding us is something deep and innate in human consciousness, and is not merely remembered association of likenesses, often in dissimilar things. At the same time, however, it must be clear that this process is greatly strengthened by remembered experience of association. The experience may be racial and not individual, as Jung has emphasized. An oak tree is a different organism from the human body. The experience of an oak tree and its qualities tempers the association of human feelings with it; otherwise we would regard it in terms of bones, muscles, flesh, and blood. So that, to return to Scott, an oak tree, though not strong in our way, is still the subject of aesthetic delight, because the projection of our bodily feelings is tempered by experience of the surrounding world. Parts of one building are supported by massive stone columns, parts of another are supported on slender steel and concrete piers. Which is strong in our way? Most people to whom stone columns are familiar would say that the former gives the greater feeling of security, while the latter produces a slight feeling of uneasiness. Yet those familiar with and convinced of the structural capacities of steel and concrete will feel just as secure with the latter as with the former. They have had the necessary experience to give the feeling of strength and stability. Still, it must be remembered that the actual feeling of stability and strength would not have existed at all unless we felt it in our own bodies.

The architecture which does not completely give back the feeling we put into it is architecture which has not been properly organized according to the principles of the human body. 'To communicate the vital values of the spirit', says Vasari, 'architecture must appear organic like the body.' Michelangelo remarked that 'he that hath not mastered the human figure, and in especial its anatomy, may never comprehend architecture'. I would add that it is a necessary condition of this comprehension of architecture that there should be a partial and habitual extension of the human body, by means of innate identification and remembered experience, to the world of organic life. London abounds in buildings that are not organized according to the principles of organic life. But it is Mendelsohn's crowning glory as an architect that his finest buildings and sketches have this organic character, each part, like the parts of the human body, having a definite function in relation to the other parts and to the whole. There is no part that appears detached and unconnected, everything is firmly knit together. Think of the Einstein Tower, or the Schocken stores at Stuttgart and Chemnitz, or the Bexhill Pavilion. Each part in these buildings proclaims its relation to the whole.

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These organic principles of design are the objectification of the feeling of *Einführung*. The feelings arising from ourselves give the aesthetic delight. The curves of the Einstein Tower produce a pleasing rhythmical movement in ourselves. In the Schocken store at Stuttgart and the Bexhill Pavilion we get a keen aesthetic delight because we ourselves move along the straight forms, and are suddenly and delightfully swung out in a convolution. We were expectant of a stop in the swift horizontal movement, and we were not disappointed. Again in the Metal Workers' Union building, our bodily feeling moves rapidly to the arresting mass at the corner, and a feeling of tension is stimulated by the way the wings grip the central mass.

Here then is one secret of the particular kind of aesthetic pleasure afforded by one aspect of Mendelsohn's building. We were taken in rapid or expectant movement, the movement is suddenly arrested, a change occurs. The change is not always the same. It is a convolution at Stuttgart and Breslau, an expansion to the vertical at Chemnitz and the Columbus House, a diffusion on the rectangular area of the screen at the Universum Cinema. Again, the feeling of lightness, of airiness is a congenial human feeling, it acts as a pleasurable stimulation to our breathing organs, and it is well satisfied by such modern architecture, and amongst Mendelsohn's buildings, particularly by the Chemnitz store, the Columbus House, and the Bexhill Pavilion.

It would be possible to continue to give instances of this projection of human feelings as an explanation of pleasure in architecture, but none is so emphatic as the feeling of organic unity, which has been a ruling passion of Mendelsohn's life, and which is more conspicuous in his buildings than in any other examples of the New Architecture, and which is the main reason, I think, why they will long satisfy human feeling.

In the foregoing, architecture is regarded, in common with all artistic creation, as a product and object of feeling, or emotion. The greater proportion of modern philosophic thought on the subject contributes to this view. Croce speaks of art as a complex of images and a feeling that animates them, the combination of which results in contemplation of feeling, or lyrical intuition, or pure intuition.¹ Lord Listowel quotes² the eminent French philosopher, V. Basch, as contending that 'the ultimate nature of beauty is to be found, on a last analysis, not in thought or volition, but in feeling'. Each man's feeling is unique; it cannot be mixed with another's and retain its purity and strength. Therefore the essence of art

¹ Croce's article on Aesthetics in the 14th edition of the *Encyclopaedia Britannica*.

² *A Critical History of Modern Aesthetics* (London, 1933).

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is personal feeling. Team work is very well for administration, or science, or the practical side of building, but not for artistic expression.

There is, however, a tendency both in modern architectural practice and criticism to regard architecture as to some extent a product of mathematics and geometry, which makes possible the conception of architecture as a communal art that can be closely associated with standardization. This geometric conception of architecture is partly due to the influence of the machine; partly due to the extensive use of steel, concrete, glass, and plywood, which have contributed to the manufacture of prefabricated units; and partly due to the theories of Cubism. But the idea of architecture as a communal and geometric art capable of standardization is old. Academic architecture, the standardization of the classical orders, was really a sort of communal art capable of being produced by teams of scholars. Architects were the slaves of mathematical formulae. Modern architecture, using steel and concrete, instead of stone, fits in with the theory of Cubism, the counterpart of Renaissance neo-classicism. Cézanne, the author of the doctrine, was a great painter rather because he felt solids in space than because of his geometric theories. 'Everything in nature is shaped according to sphere, cone, and cylinder,' he presumptuously contends. And Plato's *Philebus* is brought in for support, where Socrates says that straight lines and cones and the surfaces or solid forms are not beautiful relatively, but always and naturally. This is echoed by Aristotle and leads on to the scholastic philosophy of Saint Thomas Aquinas. The whole doctrine depends on the absolute beauty of geometric forms, but modern philosophy and science regards with scepticism the doctrine of absolute values. All that is absolute, after all, is human consciousness. As Pythagoras had said 'Man is the measure of all things'. And, it may be added, all things are relative to man.

Painters who have been influenced by the doctrine of Cubism conceived their designs with a third dimensional emphasis, but it was the feeling they gave to their work that made it of intrinsic value, not the geometric forms. In architecture Cubism has been partially responsible for the large plain surfaces and relations of square and box-like forms with a later introduction of curves. The most important architect working under this influence is, of course, Le Corbusier. Though Cubism has undoubtedly contributed something to the possibilities of expression in steel, glass, and concrete, and has maintained a refreshing clearness and precision, it remains but the ingenious juxtaposition of geometric forms, without the potentialities of great architecture. It is greatly assisted by, and assists, the standardization of parts that can be assembled on the site.

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But standardization at its best is the master and not the slave of geometry. The idea of Walter Gropius, its great champion, is to evolve the perfect design which shall form the standard, and manufacture numerous replicas. This is very well in small objects of use, and perhaps in small houses, but it is certainly unsuitable for a building of any size, which has to be adapted to a particular site, to its surroundings, and for a purpose which does not permit of much repetition. And again, standardization creates an absolute outside the individual personality.

Geometric formalism, standardization, and personal expression are three classifications which may serve to indicate important tendencies. Le Corbusier is the apostle of the first, Walter Gropius of the second, and Eric Mendelsohn of the third. It is the third which is the nearest to the creation of architecture, of that delight which is Sir Henry Wotton's third condition of well building.

The distinctive character of buildings depends on personal expression more than on anything else, even where it is a product of an architecture of strict geometric rules. The greatest of English Renaissance architects, Inigo Jones and Christopher Wren, gave a distinctly personal note to their creations. What is more personal in architecture than Wren's spires! Sir Edwin Lutyens, Sir Reginald Blomfield, and Sir Herbert Baker all work in the Renaissance tradition, yet it is not difficult to tell their buildings apart because each has a distinctive personal note which contributes largely to whatever aesthetic interest their buildings may have. Without these personal contributions they would merely be copybook architects.

It has been contended in support of the geometric theory that the Greeks built their temples according to strict mathematical principles. Have there, on the contrary, ever been architects more guided by human feelings than the Greeks? The entasis of columns is produced by the association of the human body with feelings of strength; the caryatids of the Erechtheum eloquently reveal these feelings, and the worship of the human body, the creation of the gods after its image, make it the physical measure of all things. The Greek felt the entasis, the neo-classicists produce it imitatively by geometry.

It hardly helps the arguments for the apostles of geometric formalism and standardization that buildings are becoming more and more like machines—'a house a machine for living in,' etc., etc.—because the finest and most efficient machine this century has produced was not originally a product of mathematics, and it bears to-day the stamp of its organic origin. I mean the aeroplane. The flight of birds was imitated, and mathematics was applied to the understanding of this. It is noteworthy

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that the latest and most efficient types are more birdlike than the earliest. The telescope, microscope, and photographic camera are organic structures, being extensions of the structure of the human eye. We should go to organic nature rather than to machines.

In this chapter I have apparently departed somewhat from Mendelsohn's work, but what I have said has been to some extent influenced by his work and thought. In venturing on a definition of architecture I should state that it is a definition formulated with a consciousness of the whole history of architecture, but with a consciousness also of an acute pleasure in Mendelsohn's work for which I try to account. The pleasure that it has given me makes it architecture for me. Architecture, then, is the feeling for organic structure and harmony emanating in the first place from our own physical beings, and realized in the building material, the appreciation of the structural capacities of which are necessarily dependent on experience. This constitutes, I think, the essence of delight in building, which is inevitably personal.

W. C. Behrendt suggests¹ that in the formation of a new style, such as is happening to-day, it is necessary to have communal endeavour to provide a common basis from which individual endeavour should spring. But is the conscious contribution to such a basis, which implies a certain uniformity of endeavour, necessary? An architect who truly belongs to his age, who is a product of the education and culture of that age, who by intuitive understanding has imbibed its spirit, as Mendelsohn certainly has, cannot do anything but express the period in which he works. The history of art very rarely offers examples of great original artists who are not the products of the tendencies of their age. By being essentially themselves, and expressing their own individual feelings, they more truly express their age than by conscious collectivism, which so often takes the pace of the slowest walker, and is thus really more behind than ahead. Advances are made by individuals, who, whether recognized or not, are the leaders of mankind. The Einstein Tower, the Schocken stores at Stuttgart and Chemnitz, the Columbus House, and Bexhill Pavilion are as expressive of the age as any European building produced since the War, yet, at the same time, are intensely personal expressions of the architect. But it is because they are so personal they express the age so well. And I feel also that, like all great art, they transcend the age in which they were produced. They give the satisfaction of organic structure and harmony; our bodies delight in their movements, and we feel, in the interweaving of their parts, harmonies that have become a music to our thoughts.

¹ *Modern Building* (London, 1938), pp. 143-66.

COMPLETE LIST OF BUILDINGS AND BUILD- ING PROJECTS BY ERIC MENDELSON

- 1919 1. Hat factory (Hermann & Co.), Luckenwalde.
- 2. Einstein Tower, Observatory, Potsdam.
- 1920 3. Hat factory (Steinberg, Hermann & Co.), Luckenwalde.
- 1921-2 4. Competition: Office building, Kemperplatz, Berlin.
- 5. Administration building, *Berliner Tageblatt*, Berlin.
- 6. Semi-detached private residences, Charlottenburg, Berlin.
- 7. Silk store, Gleiwitz, Upper Silesia.
- 8. Power station, Wüstegiersdorf.
- 1923 9. Project: Ruthenberg Power Station, Haifa.
- 10. Project: Garden city, Mount Carmel, Haifa.
- 11. *Competition: Business centre, Haifa. 1st prize.
- 12. Private residence, Heerstrasse, Berlin.
- 1924 13. Fur store (Herpich), Leipzigerstrasse, Berlin.
- 14. Project: Greenhouses, Dahlem, Berlin.
- 1925 15. Textile factory, Leningrad.
- 16. Jewish Lodge, 'Three Patriarchs', Tilsit, East Prussia.
- 1926-7 17. Departmental store (Schocken), Nuremberg.
- 18. Departmental store (Schocken), Stuttgart.
- 19. Jewish cemetery, Königsberg.
- 20. Departmental store (Petersdorff), Breslau.
- 21. Project: Motor-yacht Club, Wannsee, Berlin.
- 22. Shopfront (Zoo), Berlin.
- 23. Offices and showrooms (German Clothing Centre), Berlin.
- 24. Power-station, *Berliner Tageblatt* building, Berlin.
- 25. Shop (C. A. Herpich & Sons), Berlin.
- 26. Project: Trade Union Administration Building, Zwickau.
- 1927-8 27. Mosse Pavilion, Press Exhibition, Cologne.
- 28. Universum Cinema, Kurfürstendamm, Berlin.

* In collaboration with Richard Neutra.

COMPLETE LIST OF BUILDINGS AND PROJECTS

29. Block of flats, Cicerostrasse, Berlin.
- 1927-8 30. Project: Galleries Lafayette, Berlin.
31. Competition: Departmental store (Wertheim), Breslau.
- 1928-9 32. Departmental store (Schocken), Chemnitz.
33. Metal Workers' Union Building, Berlin.
34. Project: Town Plan, Lindenstrasse, Berlin.
35. International competition: State Palace, Moscow.
- 1929-30 36. Columbus House, Potsdamerplatz, Berlin.
37. Architect's own residence, Rupenhorn, Berlin.
38. Jewish Youth Centre, Essen.
39. Project: Country house, H.H. Duke of Alba, Madrid.
40. Administration Building (I. G. Farben.), Berlin.
41. Competition: Cathedral Square, Magdeburg. 1st prize.
- 1931-2 42. Zinc factory and power-station, Magdeburg.
43. Town plan, Alexanderplatz, Berlin.
44. Competition: Administration Building, Berlin Passenger Transport Company. 1st prize.
- 1933-4 45. Departmental stores (Bachner), Moravska-Ostrava, Czechoslovakia.
46. *Private residence (Mr. Nimmo), Chalfont Saint Giles.
47. *De La Warr Pavilion, Bexhill.
- 1935-6 48. *Private residence (Mr. Cohen), Old Church Street, Chelsea.
49. *Project: Flats and Exhibition, White City, London.
50. *Project: Hotel, Southsea.
51. Private residence (Professor Weizmann), Rehoboth.
52. Private residence (Mr. Schocken), Jerusalem.
53. Private library (Mr. Schocken), Jerusalem.
- 1937-8 54. Town plan: Hebrew University, Mount Scopus, Jerusalem.
55. Hadassah University Medical Centre, Mount Scopus, Jerusalem.
56. Government Hospital, Haifa.
57. Anglo-Palestine Bank, Jerusalem.
58. Trade School, Yagour.
59. Project: Business centre, Haifa.
60. Project: Hotel, Haifa.
61. Project: Hotel and garages, Blackpool.

* In partnership with Mr. Serge Chermayeff, F.R.I.B.A.

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Architecture in Steel and Reinforced Concrete—Gallery Paul Cassirer, Berlin, and principal towns in Germany	1919
Sketches, projects, photographs and models—Gallery Nierendorf, Berlin	1928
1914 to 1927—Gallery Contempora, New York	1929
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